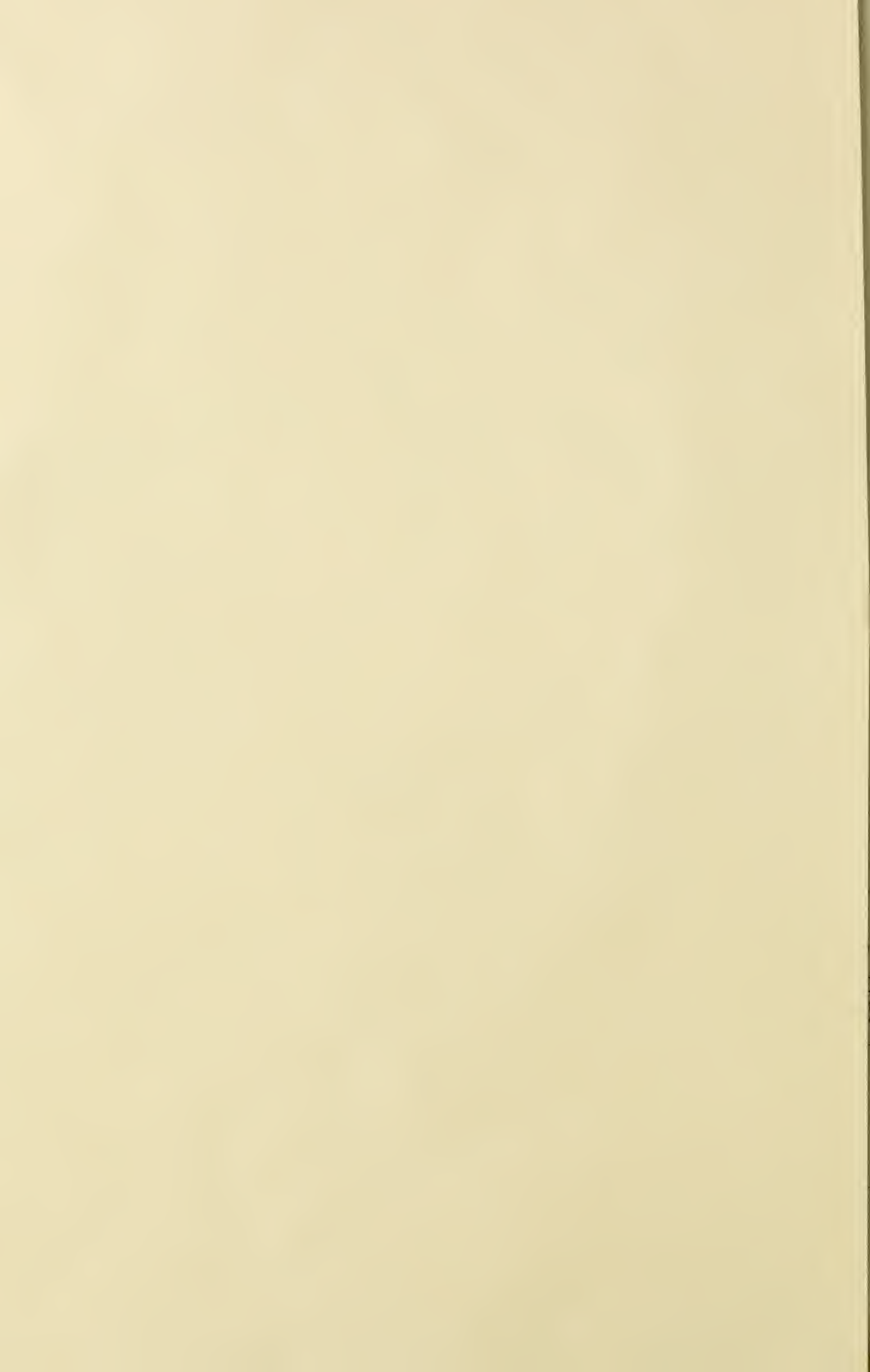


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GLEANINGSINTHEBEESCULTURE

A JOURNAL DEVOTED TO BEES AND HONEY AND HOME INTERESTS.

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WHEN A COLONY is ripe for swarming, says *Oesterreichische Bienenzeitung*, smoke is a reliable means to make the swarm issue. Sometimes a few puffs will start the swarm at once, sometimes it takes several minutes. This helps against several swarms issuing at once.

A BIG VEIL, I thought, would be a fine thing, so I had one made wide and long. Didn't like it at all. It flopped around loose and got in folds so I couldn't see well through it. I now prefer one as narrow as it can be for the hat-brim, and as short as it can be to pin down tight in front with a safety-pin.

DRONE DESTRUCTION is thus advised in *Revue Edictique*: After dinner put a strip of excluder zinc at the hive-entrance; very early next morning, while the drones are chilled at the entrance, scrape them with a trowel into a dish of cold water. [This plan is all right if one happens to have chilly weather toward morning; but during the last two or three weeks, in most localities, drones would have been any thing but chilled.—Ed.]

"IF YOUR BEES have plenty of honey in the hive, don't bother about feeding them now," p. 646. That's what I should have said two months ago; but I find there may be exceptions. The last half of July brood-rearing largely ceased in my colonies. In some of them were eggs and sealed brood, but no unsealed brood. In some were eggs, but no brood of any kind. Heavy with honey. I fed, not to start the queen to laying, but to start the workers to rearing brood, because I want bees for a possible moderate fall flow.

HERE'S THE WAY I fed my bees to start brood-rearing about July 22 (ought to have done it sooner): I laid 53 empty brood-combs on the bottom of the shop-cellar; filled them with water with a water-sprinkler; sifted handfuls of sugar over them; then several times a day sprinkled them again with water. Sprinkling water on the bees didn't hurt them a bit. The sugar was put on at night—about

25 lbs. each night. [I believe your plan is all right; but should not the beginner use some method of feeding in the hive rather than in a wholesale way as you describe, where all the bees can help themselves?—Ed.]

I WONDER if that charge against black locust, p. 647, is not like the hue and cry raised against silver lindens in Europe. Thousands of dead bees were found under the silver lindens, but it seems to be now agreed that the lindens had nothing to do with killing them. [I hardly think this can be true in this case. Several at Hanford, Cal., called my attention to the fact that the bees were found dead under the black locusts. I thought there must have been something wrong somewhere; but when F. E. Brown, a careful bee-keeper, corroborated the statement, I believed it; and yet the bee-keepers in Colorado told me the black locust was one of their good honey-plants, and that the bees had never been found dead under it.—Ed.]

READING, p. 653, about that spring water at 44° to 47°, I fell to wondering at what temperature it would be best to have our drinking-water. Ice water, we are told, is certainly not the best to quench thirst. I went to the pump, and found the water fresh from the well was just 50°. I wonder if any thing colder than that is really desirable. [Perhaps you will remember that, about 15 years ago, I tested a good many wells for their temperature. The average, in and about Medina, was 50° Fahrenheit. Some went down as low as 45, and the temperature of the well seemed to be the same winter and summer, providing the water from the surface of the ground was 20 feet down. In California and Arizona, well water would be as high as 70°, and sometimes it would be almost as cold as it is here.—Ed.]

COMPLAINT is occasionally made that bees do not gnaw the pasteboard off shipping-cages. Possibly that is because the cage is put in the wrong place. Bees can hardly be expected to gnaw the pasteboard if it is where they must go out of their way to get at it. The pasteboard end of the cage should be right on the brood, where bees are sure to be all the time. [You are probably right; but

to provide against the dying of the queen we now add to our directions specific instructions, when the pasteboard has not been gnawed within 24 hours to tear it off. By that time the queen and bees have had 24 hours' acquaintance; and even if they do release her within five or six hours she will probably be accepted all right. The object of the pasteboard is to prevent the bees from gnawing in to the queen before they have had an opportunity to become acquainted with her. As a general rule, when the cage has been properly placed the fibrous material will be eaten away, the candy consumed, and the queen released. The pasteboard, under the right condition, is a great improvement.—ED.]

A PUTTY-KNIFE seems the favorite hive-tool at Medina. Have you given the Muench hive-tool a fair trial? After using one for two years I wouldn't give it for fifty putty-knives. [Yes, I have used the tool, and so have our men; but in the course of two weeks they will lapse back to the putty-knife. This very morning I went out to the apiary to ask Mr. Wardell why he preferred the last-named tool. "Mainly because it is flexible," he said. By putting the square end of the knife on top of the top-bar, at a very acute angle, he can scrape off propolis and burr-combs, with less effort and jar to the frames, than if he used a blunter tool that will not bend. A thin blade will bend, forming an arc of a circle on the surface scraped. In this shape it will shave the surface clean and easily. If the steel is good, the thin blade can be inserted between the super and brood-chamber, and a very light twist of the handle causes a separation. Then a thin blade—one that is flexible—he thinks would enter a crack better than a sharp blunter blade that will not bend. The Muench hive-tool has a scraper on it at right angles, like the blade to a hoe; and when in the act of scraping, the scraper-blade necessarily has to stand at quite an obtuse angle, with the result that it jars the frame.—ED.]

WHEN BEES rear a young queen for swarming or superseding, a cell is built whose bottom is quite different from the bottom of a worker or drone cell, being smoothly concave like the inside bottom of a teacup. The cell is much larger than a worker or drone cell, its diameter being about $\frac{1}{16}$ of an inch. Because it is built of this large size *before* it is occupied, it is called a *preconstructed* queen-cell. After a *preconstructed* cell is built out to a certain extent it is called a cell cup, and many cell cups are started that are never occupied. If a colony becomes queenless when no occupied queen-cells are present, the bees proceed to rear one or several queens from larvæ in worker-cells. The first change noticed in one of these worker-cells is that the outer part of the cell is enlarged, the walls having the appearance of being pushed apart so as to increase the diameter. Then a hood is built over the cell, and this is built downward to make the full size desired. In the meantime the larva has been lavishly fed so that it is floated out of the narrower part of the cell. Because such a queen-cell is built

from a cell *after* it has been started as a worker-cell and is occupied by a larva, it is called a *postconstructed* cell. You may not always be able to tell from outside appearance whether a cell is preconstructed or postconstructed, but you can always tell by tearing it down and seeing whether it has a smoothly concave base, or an angular and smaller base like a worker-cell. A preconstructed cell has an egg deposited in it, never a larva at the start. A postconstructed cell is built over a worker-cell containing a larva, although in very rare cases it may contain an egg. [There, now we understand what is meant by preconstructed and postconstructed cells. But there is not one reader in ten who has any knowledge of Latin; and if he does not, he may become confused as to the meaning of the terms; and, what is more, I do not remember to have seen the terms used outside of your own writings in any American bee literature. It strikes me that far better terms would be "emergency cells" and "swarming cells." The last named would take in the supersedure cells as well as those built during the height of the honey-flow, when the bees are not compelled to do something on the spur of the moment. The first-named, emergency cells, would apply to those cups that are built when the bees find themselves suddenly deprived of a queen; for, under the stress of the condition, they hurry things. Why not adopt the simpler and more descriptive terms—or, rather, terms that will be more easily grasped and retained by the average farmer bee-keeper? You say that a preconstructed cell, or what I should prefer to call a swarming-cell, never has a larva deposited in it. Would that not seem to argue that, if the bees were given their own way, they would prefer an egg?—ED.]



August, month of drouth and heat,
Now o'er all holds sway;
Fields are brown as touched by fire—
All for showers pray.



L'APICOLTORE.

In the April issue, Mr. Dubini takes the following figures from GLEANINGS:

In the United States, out of 30,372 colonies visited by the inspectors 7253 were found to be infected with foul brood. They ordered 5972 to be disinfected, and 1281 destroyed.

Mr. Rauschenfels, the editor, says:

We should like to know what Mr. Charles Dadant would say to that, who, in 1895, wrote in the *Revue de Nyon*:

"I do not know on what document Mr. Rauschenfels based his assertion that the pest follows the American hive like its shadow, breaking out more rapidly there where the hive with movable bottom is in use; for, although I have used such hives for 33 years, and although I have opened them often to look for queens, etc., the very thing which, according to

Mr. Rauschenfels, will give foul brood, I have never yet seen a case of foul brood in my life, although this malady exists to a slight extent *here*, but is confined to a few districts; and, instead of tending to spread, it is disappearing, thanks to watchfulness and the ease with which frame hives with movable bottoms can be inspected."

Mr. Rauschenfels adds :

So frightful a proportion of infected hives among healthy ones is found in no other country.

Mr. Dadant replies as follows, which I translate from the French :

To reply to Mr. Rauschenfels, I should add that the under-cored word *here* does not refer to my home, but to the State of Illinois, as is shown by the words "few districts." I will add that the four inspectors appointed by the government went to New York, as, after having assisted at several apicultural congresses, it was decided that New York was the most badly affected. And even there they found the disease confined to a narrow district in the eastern part of the State, the middle and west having no traces of the trouble.

As to the proportion of foul-broody hives in the United States as compared with that of foreign countries, I may cite the case of Mr. Dzierzon, who lost, in one single year, 500 colonies, being able to save but 10, or only two per cent. One may read this in a letter written by Mr. Samuel Wagner, a German, who, some time after, founded the *American Bee Journal*. This letter was published by Mr. Langstroth in the third edition of his book.

In New York according to the citations above, the colonies attacked did not reach 25 per cent, and even the greater part of these were saved.

The thing that incites Mr. Rauschenfels to write those few lines is his belief that foul brood is of spontaneous generation; for we read in his "Bee and its Cultivation," 1901, page 100, that experience actually shows that the bad management of bees, etc., may lead to this disease without there having been actual contact. He cites, as proof, a certain bee-keeper who made an apiary, and carried it to, in June, 30 colonies. These were all attacked by foul brood, and died, as well as ten which he bought to replace them in the fall, and which he fed with honey from the colonies that died.

These things prove absolutely nothing. It is enough that one single colony should be diseased in order to impart to the others the disease. After hauling them, especially in summer, it is a common thing to find the bees of one colony mingled with those of another.

We have had hives the frames of which were broken in hauling, and others in an apiary which, not being sufficiently sheltered from the direct rays of the sun, had their combs melted; but none of these hives produced foul brood.

This disease is so rare in the United States that Langstroth never saw it; and although my son and I have visited numerous apiaries, neither one of us has ever yet seen a case of foul brood.

The hive with movable bottom, according to Mr. Rauschenfels, will not winter bees well outdoors. After having tried the cellar and the silo, we keep our bees outdoors, and our losses never exceed 5 per cent, yet the winters here are long and severe. A winter in this part of Illinois is considered mild when the mercury does not go below 4 degrees below zero, Fahrenheit; and 30 to 35 is not rare.

Aside from the points involved in the above, it is interesting as showing the tenacity with which old ideas cling to nations as well as to persons.

R. J. H., III.—It is hardly probable that the swarm you refer to in your letter of July 30 came out without a queen. The fact that you could not find her would hardly be evidence that the virgin or something that the bees regarded as a queen was not in the swarm. Some virgin queens are very small, and look so much like the worker bees that one might very easily overlook them.



CONFINING LAYING QUEENS A BAD PRACTICE.

Why Brood-combs should be Kept Out of the Extractor; the Difference in Colonies; Some Fair Criticisms from a Fair Man.

BY F. GREINER.

Mr. Editor:—I have just read your issue for June 15th, and I feel prompted to do a little criticising, or call a halt, as Mr. Doolittle puts it. Swarthmore says, on page 506: "The cut below is a drawing of an improved nursery-cage for the incubation of cells and the confining of virgin or laying queens." The words I wish to draw the attention of bee-keepers and queen-breeders to are at the end of the sentence quoted. They give rise to the questions, "Is it safe to confine laying queens?" and, "Do queen-breeders practice any such thing?" I have nothing at all to say against Swarthmore's cage. I believe it is good if rightly used; but against caging laying queens in them I must raise my voice. I have repeatedly proven to my satisfaction that a laying queen is more or less injured by confinement during a season when she would be most active. It does not make any difference, either, whether she is absolutely confined, or simply restrained by means of queen-excluding zinc. The injury is in proportion to the length of time a queen is kept confined. I believe queens suffer less by the rough handling in the mails than they do from the length of time the confinement lasts. The confinement in the mailing-cages during transit can not well be avoided, as bad as it is; but if to this we add days or possibly weeks of unnecessary confinement in nursery-cages, then good-by queen business. I for one would quickly drop any queen-breeder who stores queens in this wholesale fashion. The only proper place to keep laying queens is in small colonies; or, if they can be thus safely kept, in separate compartments inside of a hive where they may follow their natural inclination by depositing eggs.

I do not know that Swarthmore meant to have it understood that he advised or sanctioned the confinement of laying queens; but some queen-breeders who have not had the experience may conclude that it is a good way, and practice it. To sell such queens after some confinement would seriously injure his trade and his customers. I wish to denounce the method *before* it becomes a practice.

As to using these or any blocks for queen-cell starters, I am not so sure that they are the best thing for the purpose. I confess I don't like my cells *set into* a block or any thing else; and it seems to me more natural, and for the best development of the queens, if the bees have access to the cells on all sides, bottom included. Little blocks of wood with

cells attached to them are convenient in handling, and regular Doolittle cell cups may be attached to them instead of imbedding them. I greatly prefer it, any way, and I thus save the price of the press for making the depressions.

On page 507 E. H. Schaeffle says in regard to the difference in the working qualities of different colonies, "It is a well-known fact that some stands will put up several hundred pounds of honey in a season, while others in the same apiary will not give a pound of surplus." Really, has such a thing ever happened anywhere? If it did, would it not be jumping at a conclusion to say the reason for this difference is in the greater business integrity of stand No. 1? In another season stand No. 2 might outstrip stand No. 1. There are often some other conditions we do not understand that bring about different results. But now to the fact: According to my experience, *no such difference in stock exists*. If there is ever a very wide difference in the yields of two colonies, the principal cause lies somewhere else, and may have been overlooked. If we search carefully we may be able to find the real cause. I do not mean to say there is no difference in stock, but we need not look for such a wide difference. Progress is always slow. One of the best ways to test different strains of bees as to their honey-gathering quality is to hive new natural swarms of equal strength at the same time into empty hives, and watch results.

In speaking of straining extracted honey, Mr. Schaeffle says, a little further on, "When the honey is extracted it is run into a wire-cloth strainer that catches all small particles of wax, bees, and *grubs*." For the purpose the wire-cloth strainer is a good thing; but I am sure the great majority of consumers of honey would object to Mr. S.'s product provided they knew that a lot of *grubs* had been fished out of it. I myself don't think a bee-larva any thing horrible, yet I don't want it in my food any more than I do flies or fly-blows. Aside from this, if we extract from combs containing open brood, some larval food will find its way into the honey. Even in small quantities it will not serve to make our product any more appetizing. This extracting from combs with open brood in them should be denounced on all sides, no matter how widely it is practiced.

[It may be that the confinement of queens is injurious to them. If so, sending them by mail has its bad effects. It was Mr. W. Z. Hutchinson who once showed me his little three-section nuclei, 8 of them in one super, and above the screen of wire cloth, the same thing as is shown in the hands of Herman Rauchfuss in last issue, on page 633. When I called on Mr. Hutchinson he showed me how he was keeping a surplus of queens in these little nuclei over strong colonies—that is to say, he utilized the heat from powerful stocks to take care of eight queens. Each of these queens would lay a very few eggs, and, having a few bees, were confined by means of zinc until such a time as he might have an

order. While we have never confined queens in this way I should not have supposed that such a practice would have been at all injurious, because a queen can lay a few eggs; and to give her a little rest for a week or ten days I should suppose would be beneficial rather than otherwise.

With regard to Mr. Schaeffle's statement concerning one stock that would produce three or four hundred pounds of honey while another one would not produce a single pound of surplus, I suppose he had in mind the difference there is between colonies in the same yard, for there is a difference; but Mr. Schaeffle has, perhaps, made it much too strong. Some colonies, as we know in our own yard, will gather honey and fill supers while others will be disinclined to go into supers, or would store comparatively small amounts of surplus. Mr. Doolittle calls attention to the fact that one colony will store 30 lbs. more than another; and if this is so, it is important for us to breed from the strain that has more energy. For instance, the bees of our red-clover breeder keep on storing honey, even after the honey season; and this thing is true of the bees of the daughters of this queen. But it would hardly be fair to say that this one queen would produce 300 lbs. of honey while the mediocre stock would not produce one pound. But I think we do need to pay attention more to strains of bees than we have been doing of late; and the fact that beedom is now getting awakened is a rather healthy indication.

About straining extracted honey, I notice that, even when an effort is made to extract only from combs in the extracting-super, there will be occasionally a grub on the wire cloth of the strainer. This I saw in some of the best apiaries in California. The fact is, there will be occasionally little patches of brood unless perforated zinc is used under the super combs. But I believe your point is well taken, that it is a bad practice to extract from brood-combs, especially when those combs constitute all the brood-nest. There may be conditions that warrant it, but as a rule the practice should be condemned.—ED.]

SUGAR.

The Difference between Beet and Cane Sugar;
which is Better to Feed Bees?

BY W. K. MORRISON.

There seems to be a doubt in the minds of some that cane sugar is better than beet for feeding purposes, though European bee-masters have long since arrived at the conclusion that cane saccharine matter is always superior to beet. Though the bulk of the bee-keepers who use cane sugar could not give a sound scientific reason for the faith that is in them, I do not think that their experience lacks scientific proof.

In the first place, cane sugar is sweeter, just as Jersey milk is richer than Holstein milk; and for this reason alone it commands

a higher price. In the London market, Demerara yellow crystals always command a higher price than any other sugar; and, knowing this, the German refiners color their sugar with aniline dyes so as to imitate very closely cane sugar; but, like all imitations, it is not so good as the original.

Only a few days ago a grocer in England was tried for selling dyed beet sugar as "Demerara yellow crystals," and he was heavily fined. It was a test case, and the best legal talent was retained on either side; but the judge very properly decided that dyed German sugar was not Demerara yellow crystals as the customer had ordered, therefore the grocer was guilty of a fraudulent transaction.

According to the "theory" of expert chemists like Prof. Wiley, cane sugar is beet sugar, and beet sugar is cane sugar; but in practice this idea is worthless. The fact is, that plain common sense is a better guide. By the same process of reasoning, "saccharin," which is 500 times sweeter than ordinary sugar, ought to be "cane sugar" also, but it is not; and some countries have gone so far as to prohibit its use altogether as dangerous to the public health.

Some chemists, among whom stands Prof. Wiley, maintain that honey is glucose and glucose is honey; but he is a very poor judge indeed who can not tell the difference between the two. The chemists have been altogether too hasty in this matter, and I believe the very latest theories give the bee-keepers much more standing-room. What the chemists seem to forget is that honey contains small amounts of powerful substances that are not present in manufactured sugar, and, hence, to compare them is odious. Because the chemists can do nothing with these ethereal substances they have neglected them altogether, or set them down as "extraneous substances."

I do not believe any living chemist is smart enough to tell us what gives basswood or any other honey its distinctive flavor; therefore I hold that, until they can, all chemists should be careful in making round assertions with regard to honey. It is the same with sugar. The chemistry of sugar has been largely created by French and German chemists, and therefore favors beet sugar; yet we can read between the lines and see for ourselves "whether these things are so."

The best white sugar sold is very highly refined, be it cane sugar or beet. The bee-men of Europe carefully avoid it because, in the process of refining, it has been robbed of some of its finest constituents.

Here is an analysis of a good quality of highly refined cane sugar.

	Per cent.
Cane sugar, - - - - -	98.00
Glucose, - - - - -	.50
Water, - - - - -	1.00
Ash, - - - - -	.30
Organic matter, - - - - -	.20

Now notice the difference in a sample of muscovado sugar which has not been refined to the same extent.

Cane sugar, - - - - -	84.00
Glucose, - - - - -	6.00
Water, - - - - -	5.50
Ash, - - - - -	1.50
Organic matter, - - - - -	3.00

Notice the difference. The large amount of glucose makes it more agreeable to the bees, and the 3 per cent of organic matter contains flavoring extracts or ethers that give to muscovado sugar its honey-like flavor, so much appreciated by the bees. The first sugar is the best from a chemist's point of view, but from the point of view of a good Italian bee the muscovado is healthier, and nicer to the taste.

I believe that, in this matter, we have been too hasty in following the crowd. American and English housewives buy sugar from its look; but the careful bee-man ought to consider that bees do not judge by looks; and in buying a sugar with a high percentage of natural glucose he is pleasing the bees and conforming to their wants. For my part I believe the larger the percentage of glucose in sugar the better it is for the bees; and, seeing that it is cheaper than white sugar, why should we not use it?

Barbados makes large quantities of this kind of sugar, which is exported to New York to be refined into white sugar. It is the old-fashioned sugar, but nevertheless a good one for some uses. Jaggery, or palm sugar, would be better still; but it is not easy to get, being mostly produced in India. But any sugar having a high percentage of glucose ought to have the preference, as it is more readily assimilated by bees, being nearer their natural food, and therefore less likely to cause derangement to their intestines, ending in bee-diarrhea and perhaps other troubles. There is no trouble in getting all the muscovado sugar that is required, hence the way is plain.

Bridgetown, Barbados.

[This is one of the best if not the very best articles on the subject of cane and beet sugar we have ever published; and, moreover, it is stated so simply that any one, be he scientist or layman, can understand every point that is made.]

I have till recently believed that beet sugar answered all the purposes of general cane sugar; but while on my trip through California I was told that the large canning-factories on the coast positively will use nothing but cane sugar, because beet sugar does not give them the desired results.

Mr. Thos. Wm. Cowan, editor of the *British Bee Journal*, and, in fact, a great many of the bee-keepers in England, recommend cane sugar for feeding bees, in preference to beet, as they consider it a higher grade of sweet. But it seems to me reasonable that a beet sugar such as we have used here at the Home of the Honey-bees with excellent results for fifteen or twenty years will be equally good if not better. I have always supposed that nine-tenths of the granulated sugars on the market were beet, and that the average bee-keeper, in the United States at least, when he buys sugar for feeding, receives that sugar.

The table showing the analysis of the two sugars is very interesting. Now, I should also like to see an analysis showing the chemical constituents of refined beet sugar made in the United States. It probably would be very much like the muscovado sugar. Perhaps some of our readers are in position to give us a table that will show the exact analysis, for the purpose of comparison.

I have had several conversations with Prof. Wiley; and while I believe he has said that cane sugar and beet sugar were the same chemically, yet I feel satisfied that he recognizes that there is a difference. I also feel confident that he would not consider honey and glucose as one and the same. Indeed, he has published a pamphlet on how to detect glucose in honey.—ED.]

THE BEE IN LAW.

Qualified Property Right — How Acquired; Pursuing, Reclaiming, Replevin.—Article 2.

BY R. D. FISHER.

Having in a previous article laid down the general rules that govern property in wild animals, we shall endeavor to show how the general nature of this class of property is applicable to bees.

Bees are classed with and regarded as wild animals; therefore, as previously stated, a qualified property right may be obtained in them by reclaiming them and making them tame by art, industry, and education, or by so confining them within one's own immediate power that they can not, as a body or swarm, escape and use their natural liberty. Therefore, since bees are wild animals, and until reclaimed and hived no property right can be acquired in them, hived bees are the *bona-fide* property of the one who has reclaimed them, notwithstanding a temporary escape. So long as the owner can identify them they belong to him, and not to the owner of the soil to which they escape, although he can not enter the land to retake them without consent or committing a trespass. But even in such case it will be seen, during the existence of this qualified right, bees are under the protection of the law the same as any other property. Every invasion of this property is redressed in the same manner, and reclaimed after the same forms of law, as any other property of the same class.

Bees are regarded in law as a common species of property, an article of trade or barter, and the wildness of their nature by practice and art has become essentially subjected to the will and power of man.

FLIGHT AND PURSUIT.

In case a swarm fly from the owner's hive, his qualified right continues only so long as he can keep them in sight, and possesses the power to pursue them where he has a right to pursue, or otherwise positively and distinctly identify them. The difficulties in reclaiming bees after taking flight are many. The decisions of our courts furnish numerous peculiar

circumstances, and unfold the difficulties in reclaiming bees that have escaped from the hives or soil of the original owner. In the case of *Goff vs. Kiltz* (15 Wend. N. Y., 550), the New York Supreme Court held that, where a swarm of bees left the hive of the plaintiff, and went into a tree on the land of another, he having followed the bees and marked the tree in which they entered, while he had no right to enter upon the property to recover them without the consent of the owner, yet he could maintain an action of trespass and damages against a third party who entered the land, cut the tree down, killed the bees, and took the honey away.

Puffendorf, in his *Law of Nature*, chapter 6, says: "While bees are no doubt wild by nature, since their custom of returning to their hives doth not proceed from their familiarity with mankind, but from their secret instinct, they being in all other respects utterly unteachable, it is, nevertheless, one of Plato's laws, whoever shall pursue the swarms which belong to others, and, by striking on the brass, shall draw them with the delightful sound to settle near himself, let him make restitution to the owner." But it is held in a Scotch case (*Harris vs. Elder*, 57, J. P., 553), that reclaimed bees remain the property of the owner only so long as he is pursuing them where he is entitled to go, and that, if they come upon another's land, that person is entitled to prevent pursuit on his land, and becomes the owner of the bees if he hives them. This is not good law. As a general proposition, and by the weight of authority in this country, it seems that bees belong to the first party reducing them to his possession, and, while followed from the hive of their owner, and located by him, are held to be his property unless he abandons them.

The New York court, in the case of *Goff vs. Kiltz*, above, said: "They remain his property notwithstanding a temporary escape: the owner keeping them in sight, and marking the tree into which they entered, they belong to him and not to the owner of the soil." It was argued that the owner of the soil was entitled to the tree and all within it. The court said: "This may be true so far as respects an unreclaimed swarm. But if animals *feræ nature*, that have been reclaimed, and a qualified property right obtained in them, escape into the private grounds of another in a way that does not restore them to their natural condition, a different rule obviously applies. They are then not exposed to become the property of the first occupant or possessor after their escape. The right of the owner continues; and, though he can not pursue them without due process of law, without being liable for trespass, still this difficulty should not operate as an abandonment of the bees to their former liberty."

HOW RECOVERED — REPLEVIN.

Replevin is the universal remedy in the United States when chattels have been wrongfully taken or are wrongfully detained from a claimant, and he seeks to recover them *in specie* instead of satisfaction in damages. It is a

statutory action, and the statutes are considerably variant. (See Cooley's note to Blackstone Com., p. 144.)

Trover is the remedy by which, under the same circumstances, to recover satisfaction in damages, the defendant being allowed to retain the chattels as of his own property. Of this subject, however, we will speak later on.

Replevin, in modern practice, being a remedy for any unlawful detention of personality, the same being delivered to the claimant upon security given, either to make out the injustice of the detention or to return the property, may be employed to recover bees which have swarmed and left his hive. Replevin lies for a swarm of bees. Fitz, N. B., 68.

RAMBLE 189.

Old Combs vs. Foundation; the Russian Drone Story.

BY RAMBLER.

"How d'y'e do, Mr. Smith? Better get up here and ride if you are going my way."

"Why, bless me! how d'y'e do, Rambler? certainly I am glad to ride with you. I am getting tired of this walking; and if you are going through Hollywood I will sit by you for a few miles."

"Yes, Mr. Smith, I am going through Hollywood, on over the Cahuenga Pass, across the San Fernando Valley, over the San Susana Pass, down the Simi Valley to Mr. Richardson's, a little short of 50 miles."

"I must say, Rambler, you have quite a drive ahead of you with a late start, slow road, and (I should judge) not a speedy horse. Don't believe you will make it to-day."

"Well, if I don't, Mr. Smith, I will make two passes at it."

"On some bee business, I suppose?"

"You may be sure of that, Mr. Smith. Bees and honey seem to be second nature to me. Whenever I try to get out of the business I get put back into it with such a sudden jolt that I am now inclined to stay there; and there is more and more developing in bee-keeping now than at any time before, and the business is decidedly interesting as well as profitable; and this journey of mine I suppose some of the progressives would call an old-fogy piece of business. You know I told you about the great scrape I had at Richardson's. Well, he had so many good combs that I thought might get moth-eaten before he could use them that I had a great hankering for them, and finally made a bargain with him for 500, and that is what I am after this very minute. The 500 will fill 50 supers, and you know that that will give the bees a big boost right now."

"But, Rambler, you use the Heddon frame, and I suppose R. uses the L., and you will have to cut and trim and waste."

"No, Mr. Smith; R. uses a frame about 12 inches square; and by cutting through the center the combs will fit with but little waste."

"Ha, ha! Why, you are indeed an old fogey.

Don't you know it is a waste of energy to be transferring old combs when you can get plenty of foundation nearer home?"

"I am happy to say, Mr. Smith, that I don't know any thing of the sort. You see, bees will not draw out foundation for some weeks yet, and these combs can be put to use immediately; and then as far as combs are concerned I have used them when they were 20 years old. A comb is never too old for my use."

"My, my, Rambler! I have been led to believe if the combs are not renewed often the cells will get smaller and smaller, and the bees ditto, until they are no larger than gnats."

"Who led you to that belief, Mr. Smith? How long have you kept bees, and how many colonies have you?"

"Le'me see. I have 25 colonies; bought ten three years ago of Mr. Podovsky. He is an expert, and I have been led by him, as it were. He says we don't know much about bee-keeping in this country; but in Southern Russia, where he came from, they are very expert."

"Well, now, Mr. Smith, don't you be led by any such foolish notion as that. I will loan you a late issue of GLEANINGS, where there is an account of combs 40 years old, and still fit for use. And by the way, Mr. Smith, you need to take that bee-paper. It will be dollars for your pocket and sense for your head; you will then have no use for Russian experts."

"I'll think the matter over, Rambler, and talk with my wife about it; and if we agree on the subject we'll take the paper. And, by the way, that Russian told me that the drones commit suicide. What do you think about it?"

"What an idea, Mr. Smith! Why, anybody can see that the bees drive them out of the hives—actually tumble the poor things out."

"That's how it always appeared to me; but this Russian says the struggle between bees and drones is when the bees try to prevent the suicide, and that the cause of suicide is owing to their having a female to rule over them."

"That is a sad condition, Mr. Smith; but of all the queer ideas about bees, that takes the cake. I guess that Russian is an anarchist, sure. I know you do not indorse such things, Mr. Smith."

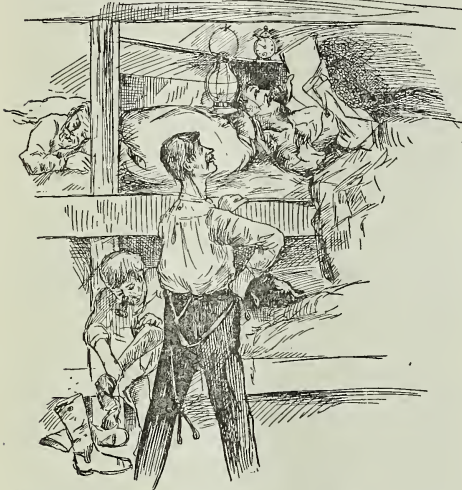
"Oh, no! I do not believe in these anarchistic ideas; but I didn't know but Mr. Podovsky was correct about the bees, seeing he claims to be an expert. I think my wife and I will have to take that paper; but, whoa! halt your horse, Rambler. Here I am, a whole block past where I ought to get off—got so interested in bee-talk I forgot where I was at. Good by, Rambler; hope you a pleasant journey and a profitable venture."

"Thank you, Mr. Smith; I am sure those combs will be of immense value to my bees. Sorry to lose your companionship."

As Mr. Smith surmised, I was late getting into the Simi Valley, and the shades of night settled down heavily when there were several

miles of the most difficult part of my journey to perform.

To ford a river several times, follow various windings in a canyon, and do several other things not comfortable to do in the dark, led me to consider the matter seriously, with the result that I drew up to the many buildings upon a big California ranch.



"I was assigned a portion of a bunk with a light-hearted Frenchman."

It was nearly 9 o'clock; but the men came rousting out with their lanterns, and the dogs set up a chorus of welcoming howls. I am not sure but the roosters began to crow. It is what they are likely to do in this land.

In answer to my inquiry about the road, the men said it would be utterly impractical to get through in such a black night as this. "Why," said one of the young men (the rancher's son, as I afterward learned), "I tried to ford the river a day or two ago at the old crossing, and came near drowning a horse. You are welcome to stay here, stranger; we have room in the bunk-house for you."

So these men did a "good Samaritan" act—took care of the stranger and his tired beast.

This was my first experience in a bunk-house with a crowd of ranchmen and cow-punchers, for this was a cattle-ranch with not less than a thousand head.

The buildings on a 5000 or 10,000 acre ranch approximate quite a village in appearance—the residence, several barns, tool-houses, shops, big corrals, and (the most interesting to me just now) the bunk-house. This is not a very elaborate or ornamental affair. This one was about 12×8 feet. The floor was somewhat littered with dogs, a saddle, now and then a strap or a lariat; but the distinctive feature was a series of bunks along one side, arranged one above the other like berths in a ship; but these, instead of holding one man, were designed for two in a berth or bunk. There were no spring mattresses in these bunks. In place of springs there was the soft side of a board made a little softer with a few blankets.

When bedtime arrived I was assigned a portion of a bunk with a light-hearted Frenchman. He turned in on the back portion of the bunk, hung a lighted lantern over his head and an alarm-clock over mine; lighted his pipe, and, as a preliminary to going to sleep, proceeded to smoke, and read the *Examiner*.

Well, between the novelty of the situation—dogs, fleas, and the alarm-clock, my sleep was in the nature of cat-naps, and I was, perforce, up early in the morning.

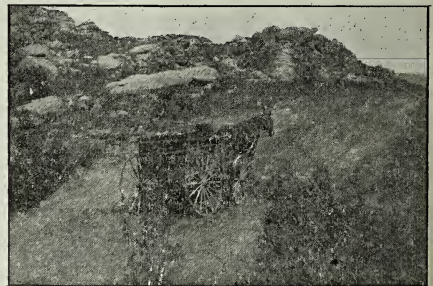
The men who gathered around the breakfast-table were a motley crowd—American, Spanish, Irish, and French. Each gnawed his bone in comparative silence; a large somber room, a large somber table, no table linen, no flowers, no ladies. The only redeeming feature was a young girl to bring in the hash.

The men were soon off on their horses for the distant cattle range, and that is the way things run on a big ranch, day after day. When I offered to pay for my entertainment, the young man refused acceptance—every thing was free.

I was soon crossing and recrossing the Simi, and it was almost as much as I could do to keep the trail in the daytime; but what would I have done in the night? Simply camped; and when we have the tools with us it is infinitely better than bunk-houses.

I surprised Bro. Richardson at an early hour in his 40-acre olive-orchard, and was forthwith given *carte-blanc* rights to take empty combs from the home apiary.

The 500 combs just fitted my wagon, the power of my horse, and the climb over the San Susanna Pass.



CROSSING SAN SUSANNA PASS.

In almost a week after my return those combs were all in use, and, from their acceptance by the bees, they were away ahead of foundation.

Whatever, whoever says to the contrary, when I can fit two pieces of good worker comb into a frame it will be done at any season of the year.

I will give your readers a glimpse of a portion of the Simi (*se-me*) Valley and Mr. Richardson's home apiary. Note the largeness of the apiary. When the photo was taken there were 400 colonies. It is intended, I believe, to accommodate over 500. Note the vegeta-

tion—a variety—buck-brush, artemisia, purple and white sage, cactus, live oak, and away beyond. Yes, that valley used to be covered with the same vegetation that is near the apiary—lots of sage; but see what a usurpation the plow has made upon the rights of the bee, and the bee has no right to protest. The usurped land is now devoted to grain culture, and it is only a question of a little time when the rest of the level land will be usurped, and then the bees will hie away to the distant hills which are covered with a variety of vegetation; but even here on the accessible portions hundreds of cattle range to the detriment of honey-pasturage.

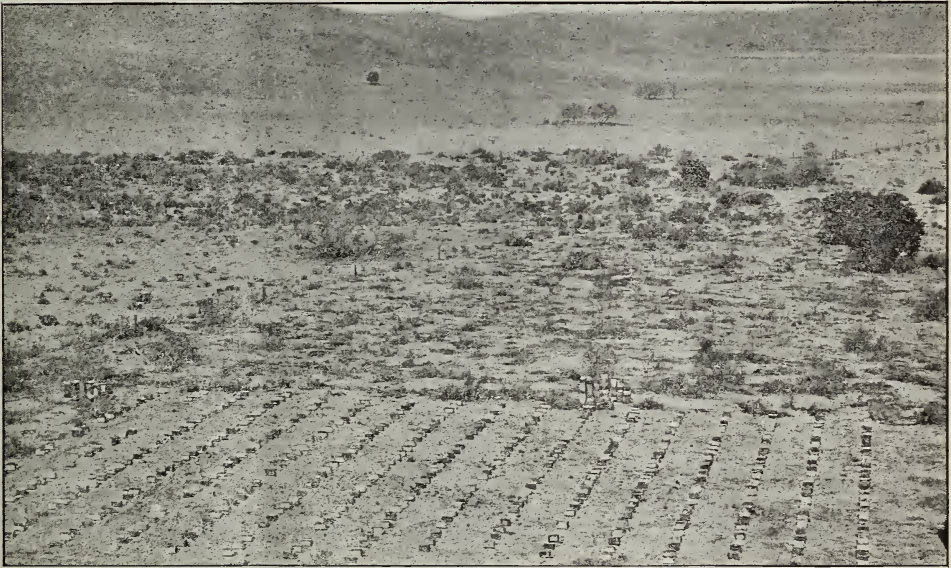
Away across the grain-fields, nearly three miles, Mr. Richardson has another large apiary, right in the hills, where the plow can not usurp, illustrated in GLEANINGS some time ago, and also in the A B C. A corner of the

NOTES OF TRAVEL.

A Visit with Udo Toepperwein and G. F. Davidson.

BY E. R. ROOT.

Everywhere I went it seemed as though I brought rain. When I got into Alabama I learned there had not been any showers for two months. The morning I left home it had poured hard, and for that matter all the way; and on arriving at the home of friend Jenkins I found I had brought the rain with me. Surely I would leave it behind I thought when I got over into Texas; but I had not been in the region of San Antonio for more than two or three days when it began to rain there. Prior to that, there had been a continuous drouth for two or three months. It got so that I told my friends along the way, that,



RICHARDSON'S HOME APIARY, SIMI VALLEY, CAL.

40-acre olive-orchard is shown at the right. The olive-tree has a little insignificant blossom, but the bees work upon it to advantage. Across another corner of the olive-orchard there is a new year-old railroad, the S. P. Coast Line; and instead of hauling his many tons of honey 20 miles or more he ships right from his door, so to speak, and so progress advances with steady tread.

The small photo shows the Rambler's load of empty combs crossing the San Susanna Pass. There is a clump of sage by the roadside, and many more among the rocks. Plow nor cow will ever usurp the bees' rights here. And, by the way, allow me to remark that this same San Susanna Mountain is being punctured with one of the largest tunnels in the country—over four miles in length, and on the before-mentioned Coast Line R. R.

if they needed showers any more, just send for me and I would bring them. Well, when I arrived at San Antonio, after calling on Mr. Scholl, as described in our last issue, there was every indication that there would be a hard shower; and, sure enough, there was one—a good hard downpour. But in the meantime my friend G. F. Davidson, of Fairview, who, knowing that I was to be in San Antonio at a certain time, had come up to make me a visit. He had been hunting for two days, not knowing I had gone up to see Mr. Scholl. When I reached San Antonio the second time he was awaiting me.

Mr Davidson, it will be remembered, is a queen-breeder as well as a honey-producer. I believe he owns, or did own, something like 800 colonies. He almost needs no introduction to the readers of GLEANINGS, yet I am



UDO TOEPFERWEIN.

glad to present him, not in his everyday work clothes, but in his go-visiting dress. Perhaps there is no bee-keeper better known within 100 miles of San Antonio than Mr. Davidson, for he has traveled over a great deal of the territory, buying and selling honey as well as selling bee-keepers' supplies. He had never visited Mr. Toepperwein, and so we together made arrangements to call on him at Leon Springs.



G. F. DAVIDSON.

But, who is Mr. Toepperwein? He is a young man fully six feet high, a giant in strength, full of enthusiasm, ambitious and honest. He has been in the bee-business a number of years, but during the last year or two he has been devoting his whole attention to bees.

At the time of my visit he had only a small number of colonies; but since leaving there I understand he has, with his partner, Mr. A. Y. Walton, come into possession of over 400 colonies, and in the very near future will have

nearly 1000. The two have formed a partnership to take the business of the A. I. Root Co., and have opened a store at San Antonio for buying and selling honey, as well as for handling the Root goods. With them will be associated Mr. G. F. Davidson, and the trio expect to do a good business. So much for Mr. Toepperwein and his business connections.

It had been raining at Leon Springs, and it was not possible, therefore, to use the camera to any extent; but as soon as the drops had ceased to fall, and the clouds had cleared away a little, I asked Mr. Toepperwein and Mr. Davidson to step out into the bee-yard, as I desired to take pictures of them. Mr. Toepperwein came first on the docket. I asked him to stand near one of his favorite colonies in his apiary, stretch himself up to his full height, put on his blandest smile, and to assume for the time being that his best girl was looking at him, as I expected to turn on him all the eyes of the great GLEANINGS family.* He did so, and the camera records the result. The picture is a fairly good one, and shows him to be just what he is, one of nature's noblemen, a perfect specimen of rustic health, capable of any amount of hard honest work, and good enough to win the heart of any "best girl." His partner, Mr. Walton, I saw for only a few moments; but from what I can learn the two are well matched.

Just as I had finished taking the picture we heard the rumbling of distant thunder. Some more black Medina clouds were hanging ominously low. Over in the distance we had heard the patter of big drops. I told Mr. Davidson to fix himself up quickly—I wished to get a shot at him. There was no time to think—no time to do any thing; but I poised the camera as best I could, pressed the bulb, and then we three started on a run for Toepperwein's bee hive shop, in between the big drops that were beginning to come thick and fast. On arriving home I was sorry to find that the picture was "no good"—at least so poor I did not like to disgrace my friend Davidson, and I accordingly asked him to sit for a picture and send me one, which he did, which and we reproduce.

A NEW UNCAPPING-BOX.

How to Extemporize one Out of Old Hive Bodies;
Something about the Most Extensive Bee-keeper in the World.

BY HARRY HOWE.

Take a good tight hive and nail a cover to the bottom; then wax the crack, and you have a fair capping-tank. For the box to cut the cappings into, take another and tack a piece of wire cloth over the bottom. Bring the edges of the cloth up inside of the hive-body some two inches or so, and tack a strip over it all the way around. This will leave it

*To be honest I don't know that he has any "best girl;" but I thought if he hadn't any, that possibly, perhaps, I might find one for him, or, better still, one who, attracted by his good looks, would find him.

so that the bulge from the weight of cappings will come down into the lower body, which is used as a tank. By tacking the screen inside, the two bodies will fit close together and make a good joint. Then, too, none of the dripping honey will fall outside.

Put a piece of board across the top to rest the frames on while they are being uncapped. Then when you wish to leave it, a cover closes it bee-tight. This will hold enough for half a day's work if the cappings are cut up once in a while with the uncapping-knife, and this cutting helps very much in the draining.

In this way one gets the lower hive-body just about full from the cappings that the upper one will hold.

Have a pail of water and a good whetstone handy by, and keep the knife in perfect cutting order. Then when you cut, *cut*. Many people take off the cappings as though the combs were something precious, and not to be handled roughly. By cutting just into the honey one can cut much faster, and will have more wax. If a comb bulges, cut it down level. By putting eight in a ten-frame super they mostly do bulge some; but it is easier to take the honey from eight big thick combs than from ten thin ones.

W. L. Coggshall has been listening to the fellow who advises out-apiaries. He now has them in Wisconsin, New Mexico, and Cuba, besides seventeen or twenty in New York. It is said that he also has his eye on the Philippines, and is planning a system to keep the boys extracting the year round. But he can not get *all* the honey. There are others. Doo-little seems to feel bad because we are selling more than we buy. His idea seems to be that true prosperity consists in producing \$500.00 worth of honey a year and buying \$600.00 worth of groceries and clothes. Then perhaps he has been hearing Niver talk about single tax. A man who can talk people into buying buckwheat honey in preference to Cuban bellflower, and who can sell "blue sky" by the township, should not talk politics.

Osburn's figures on increase and bee-loads is a trifle startling, but he meant all right. In this locality one bee often gets a load from one bellflower in the morning, and in the afternoon it may take very many.

When the long tongues are a fixed fact, then breed from the best hustlers among them, and there you have it. One of nature's laws seems to be that the offspring from parents that vary from their parents are more apt to vary. Or, to put it another way, variation is a characteristic itself. For instance, "five-banders" would be more apt to vary than black; and five-banders with long tongues more yet. For this reason, in-breeding is necessary to fix the desirable change when once it is achieved.

Artemisa, Cuba.

[Your uncapping-box is so simple that any one can make a good one out of the material at hand.

That man Coggshall if he keeps on will have more bees than any one else in the world, if he has not already; but one should

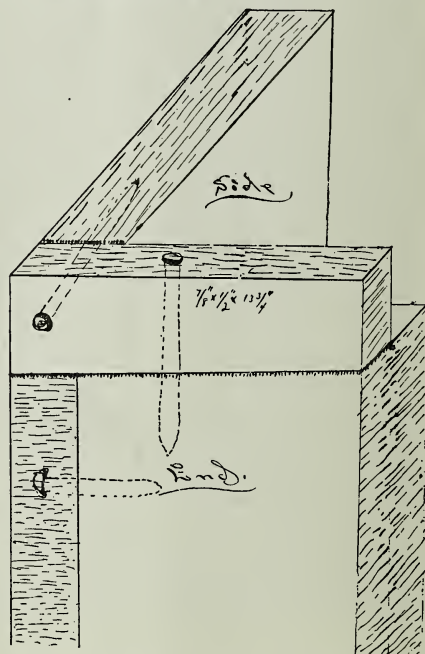
look out and not get too many at "long reach." It is one thing to manage a business when one can give his personal supervision, and another when he has to depend on hired help a thousand or more miles away. This is not intended as "gratuitous advice" to Coggshall, but to some others who might attempt to follow his example. Coggshall is a good business man, and where he would succeed others might fail.—ED.]

HOME-MADE HIVES.

Suggestions for a Simple Method of Transferring; Hive-covers Boiled in Linseed Oil; that Cheap Land in Florida; Comb Honey vs. Extracted.

BY E. H. SCHAEFFLE.

In home-made hives the strip cut out at the ends warps badly. To remedy this defect I have made some hives in which the ends come up to the bottom of the rabbet, and a strip is then nailed on that extends across and secures both the end of the rabbet and the side of the hive. This saves material, labor, and effectually prevents warping.



I have this season transferred bees by smoking them down on to other frames, then slipping a queen-excluding zinc under, and, when the brood has all hatched out, placing a bee-escape board on, running the bees all down, and leaving the old combs free from bees to be taken to the bee-house and cut out at leisure. No dead bees, no smear, no stings.

Bottlers of honey tell me, "We can take one can of your honey and add three of glucose to it, as it has a strong honey flavor,

while the honey from other sections will not take more than can to can." I think this difference is largely due to the fact that the tasteless honey was thrown out by the extractor as fast as it was brought in, and then evaporated by sun heat. The heat of the sun dissipated the flavor. With me the honey is allowed to remain on the hive until it is heavy in body. Honey with an objectionable flavor I have corrected by heating, thus evaporating the rank taste and odor.

If it is desired to have the bees build comb while storing honey, I find placing a frame with a starter only, in the center of the brood-nest, where the cells will all be worker, a better plan than to "cut deep" in extracting. The cappings are worth but 26 cts. when melted into wax, while the drawn combs are worth \$1.00 a pound. I do not mean that old combs are worth this per pound, as they are heavy, but light new combs the same weight as the cappings.

Lumber boiled in linseed oil is almost waterproof. Why not make hive-covers of the ventilated type, and boil all the parts in oil? It would cost a little more at the start, but the wood would absorb but little paint, while the covers would be almost indestructible. If you would test the matter, take two pieces of a section; boil one in oil, and soak the other in water; now expose the two to the sun's heat, then soak both in water, and observe the difference when exposed to the sun.

Mr. Root's description of the 50-cents-acre lands of Florida, with water on tap, caused me to ask, "Why don't they raise alfalfa, and feed it to stock?" Land of that description is worth a hundred dollars an acre for alfalfa, anywhere in the United States. Alfalfa would in that climate produce four to six crops, and make four to eight tons of hay to the acre. Fed to stock it would bring, in cattle or pigs, \$5 to \$10 a ton, at the least. Hogs thrive as well as cattle on green alfalfa, and do well on it when dry, if cut and steamed.

There may be sections where comb honey can be produced to as great a profit as extracted. Where this is the case, comb honey should be given the preference, as it commands a better sale, and can not be injured by the substitution of glucose. With me, while all stands produce a certain amount of extracted honey, only the very strongest will build comb honey; and the proportion of comb, when compared with what they would produce of extracted, is so small that extracted at 5 cts. a pound pays better than comb at 25. For this reason starvation would stare the bee-keeper in the face who ran all for comb honey, in this section. What is wanted is not less extracted honey, but less glucose sold for *extracted honey*.

Murphys, Cal., May 15.

[Very possibly your method of making a rabbit would be an improvement; but I should expect checking or splitting at the nails in time, in your climate—the nails that secure the rabbit in position.

The next time bottlers of honey tell you that they can take one can of honey and

three of glucose, etc., quietly give me their names, if you can get them to make the statement in the presence of several witnesses. They are just the chaps we should like to get hold of. I am aware that your California pure-food law has recently been made a dead letter; but if we get strong enough evidence we may be able to do something, even under the law, emasculated as it is.

I have no doubt that hive-covers boiled in linseed oil will prove to be very durable. This suggestion may be worth a great deal to the bee-keepers of California and Colorado, as well as other States where the climate is very dry and warm.

If extracted honey brought 5 cts., and comb honey 25, I do not see why it would not be more profitable to produce the latter, twice over.—ED.]



MARKETING HONEY; MARKET QUOTATIONS
IN GLEANINGS ENDORSED; SELLING OUT-
RIGHT AND SELLING ON COMMISSION;
ORTHODOX ADVICE.

"You know, Doolittle, that you told me to grade, crate, and get my comb honey ready for market a few weeks ago."

"Yes, I remember."

"Well, I have it all done, and now I come over to have you tell me how I'd best market it."

"In telling you regarding this matter I would say that much depends upon the amount of honey you have and your surroundings. If not more than from 100 to 500 pounds, probably you can dispose of it in our nearby towns and to the farmers."

"Perhaps I might dispose of part of it that way."

"Yes, I think you can; but before disposing of any of it you wish to know what to ask for it, not selling it too low, nor ask so much for it that you can not dispose of it at all."

"But how am I to know about what price to place on it?"

"To know in this matter you should take some paper which gives a reliable report as to what honey is selling at in our large cities; and I know of nothing more accurate as to reports, or that takes more pains to ascertain the truth in these matters, than GLEANINGS IN BEE CULTURE."

"I am glad to hear you say this, for I take GLEANINGS."

"Very well. Find the quoted price for each grade of honey which you have, in the city to which you would send your honey, did you ship any away, and then figure the expenses for freight, cartage, and commission out, and you will have what it is worth at your nearest railroad station. For example, the rates on comb honey from Skaneateles to New York city is fifty cents per 100 pounds.

As this is gross weight, we find by a little figuring that about 55 cents per 100 lbs. is what the freight will cost, and the cartage will bring it up to 60 cents. Quotations during the months of July and August are generally little more than nominal; but from them we will guess that fancy honey will bring from 13 to 15 cents this year. But unless your honey is exceptionally fine I should not put it above 14. Then as most commission men charge 10 per cent for selling, we have \$1.40 as the cost of selling 100 lbs. This, added to the 60 cents freight and cartage, makes a cost of about 2 cents per pound to get our product to market, and the cash for it in our possession, so that, on the basis of these figures, if you can not sell the honey you have in Skaneateles and surrounding towns at 12 cents per pound, you had better send it to New York.

"Well, I had never thought of reasoning it out in that way. I thought I ought to have 13 cts. for it, or only one cent less than New York quotations."

"It is an old saying, that 'a nimble sixpence is better than a slow shilling;' and I fear you will find that your honey will go very slow at 13 cts., while it would sell rapidly at 12 cts. Then there is a possibility that, when the market comes to be established this fall, honey may go still lower than the nominal prices we have used, in which case it would be better to move it off rapidly by putting the price at 11½, where a party would take a whole crate. But there are some other things I wish to talk about a little."

"What are they?"

"You said, the last time I saw you, that you had thought you would have three or four thousand pounds of white comb honey."

"Yes, and upon getting it crated I find I have nearly 4700 pounds."

"You do not think you can dispose of all of that in the towns about you, or in the 'home market' as it is called?"

"No, probably not more than 1000 pounds."

"Well, what are you going to do with the rest?"

"I thought I might sell it to some dealer, if I could get the price I asked for it."

"And what were you going to ask for it?"

"I had calculated to ask 13, the same as in my home market. Would not this be right?"

"After getting at the real value of my crop, as nearly as I can by the line of figuring we have been using, I have always placed the selling price, at my nearest railroad station, at one cent per pound less than I thought it would bring when sold on commission."

"What is that for?"

"My reasons for so doing have been that there is some risk always in shipping on commission, which risk you do not have to run when you sell for cash. Then in selling outright I have the money at my disposal and can often invest it so as to make more than the penny a pound would amount to before a return was made from the commission men, because this selling on commission sometimes proves to be a slow process of disposing of our product."

"But can you always get cash at the railroad?"

"No, not always, and I might say not often; and this is the reason why I have not oftener sold my product, instead of shipping on commission being the rule. I always demand cash at the railroad, when sending to a person I do not know; and if I spoke my mind freely I should say that this is best always, as right wrongs no man. I much prefer to wait a few weeks or months on the commission men to waiting a few years, or never getting any pay of a dishonest buyer."

"Did you ever have any experience with dishonest buyers?"

"Years ago I not only sold my own crop to a buyer in Philadelphia, but bought several thousand pounds from neighboring bee-keepers for the same party, and was foolish enough to let it go with the promise to pay on its arrival at Philadelphia, but 'arrival' proved to mean five years, and I got it then only through strenuous efforts. Thus I learned a lesson which I have tried to profit by."

"I am very glad to have had this talk with you, and I will try to profit by your experience also."

"Before you go, allow me to sum up a little: I would say always, put up your honey in the most attractive shape possible, grading each kind of honey into at least three grades, and sell as much in the home market as possible at from 2 to 2½ cents less than reliable market quotations from the large cities. If you have more than can be disposed of in this way, sell the rest for cash if you can obtain as much for it into a cent a pound as you think it will bring you when shipped on commission. If you can not thus sell what you have above what your home market will take, ship on commission to reliable parties."



QUESTIONS ON SWARMING.

Mr. Root:—Will you please publish the full law on bees in the State of New York?

1. What is the reason bees cluster out on the front of an old hive, as mine have been doing for the last week?

2. Is there any way of telling from which hive a swarm issues if you do not see it come out of the hive?

3. What is the cause of swarms leaving the hive after they have been hived? They have been hived three times within three days, and each time left.

4. What is the cause of water on top of super of sections in summer, as the roof doesn't leak? It is one of those ventilated gable roofs, with an air-space; and in the winter, when the snow is blowing, it will collect in the air-space, and stay there until there comes a warm day; then it will melt, and run down through the bottom of the roof and on to the

bees; and the frames too are wet with it. Is there not a way to remedy it?

CHAS. MAC DONOUGH, JR.

Shokan, N. Y., July 22.

[The New York State law to which you refer is doubtless the one relating to foul brood and other brood diseases. We gave the whole text of it on page 365, May 1, 1899.

1. There are several reasons why the bees may be induced to cluster out: Too small an entrance; a hive that is not protected from the glaring rays of the sun; a hive that is too small; a poor season. Any one of these, especially if there are two or three in combination, will force the bees out of the entrance and cause them to loaf during the day. The remedies are obvious.

2. No, not unless you can discover the hive, around the entrance of which the bees are acting queerly. A few bees will become demoralized, run about, and there may be a string of bees from the swarm in the air to the entrance of this hive. A practical bee-keeper will often locate the hive from which a swarm has issued by the way the bees behave around that particular hive.

3. Very often a newly hived swarm will come out again, not once, but two or three times after they have been hived. It is usually advisable to give swarms a frame of unsealed brood, with a little honey; but even then they will sometimes come forth. It is then advisable to live them in an entirely different location—one that is well shaded, and in a hive that is roomy, with a large entrance, not forgetting the brood. But when any swarm behaves in this way it is advisable to clip the wing of the queen at the time of hiving, if she can be found.

4. The water could hardly have come from melted snow as late as summer. If I understand your locality, the snow would have all melted months before. The moisture is probably due to the warmth of the bees coming against the super cover, and in contact with the cool air of the previous night. Many and many a time I have noticed the exact size of a cluster of bees by the moisture on top of the cover. In such cases the night had been cool, and in the morning there would be a sort of sweat, as around an ice-pitcher, right over the exact spot under which was the cluster of bees—ED]

WINTERING BEES IN A LARGE CELLAR; THE EXPERIMENT AT THE HOME OF THE HONEY-BEES.

I was very much interested in your indoor wintering as described in GLEANINGS, in your cellar partitioned off from the main apartment. Now, do I understand that the only provision for ventilation was what would percolate through the sacking? How did they compare with the outdoor colonies, as to building for the harvest?

I am thinking of partitioning off a space like that in one end of my cellar under the store. Vegetables, etc., are kept in the main part of the cellar. Would you recommend it with your present light? I have always win-

tered outdoors with hives packed, but do not like it. The winters are too severe.

GEO. SHIBER.

Franklinville, N. Y., Aug. 6.

[We were very much pleased with our experiment in wintering bees under the machine-shop, as described in GLEANINGS, pages 195, 246, and 400. They came out in fine condition, were much stronger, and were in better condition for the honey-flow when it came—much better.

There is no reason why you could not secure the same results we did, providing you see to it the temperature does not go below 40 nor above 55, for that is the range that prevailed in our cellar; but on account of the large number of potatoes we had in other parts of the cellar we opened and closed the windows quite frequently. During very warm spells, when the temperature was above freezing we kept the cellar closed to keep in the cold air; then when it became quite cold, and the temperature went up a little too much, the windows were opened.

But it should be understood that the bees were in a compartment *wholly within the cellar*, and the potatoes were stored in the space around the compartment or room in which the bees were. We closed up the space or ends of this room by means of sacking or burlap, two or three thicknesses, one over the other. The bees were scarcely examined all winter except to note the variation in temperature occasionally; and the number of dead bees was the smallest I have ever seen. In fact, one could almost walk on his tip toes without stepping on dead bees. The colonies were kept in the cellar until it was so warm outside that one could almost rear queens, and we kept them there late just to see how long they would remain and keep quiet, even after other bees were gathering pollen from natural sources outside. We shall, the coming fall, put in twice the number of colonies; and as the cellar is 36×96 we do not consider that the increase in numbers will make any practical difference so far as the atmosphere of the general cellar is concerned.

I think one secret of the successful wintering is due to the fact that the cold air came into the outer compartment of the cellar, and then gradually percolated through the burlap (after it got warmed up) into the place where the bees were. The result was, there was no sudden change of temperature, and plenty of fresh air.

I am satisfied now that one trouble from indoor wintering is that cellars are often too small for the number of colonies accommodated. One may put 150 colonies into a cellar 10×10; but the cubic capacity of air for so many bees is altogether too small to get good results. In our machine-shop cellar there were only 30 or 40 colonies in a cellar 36×96, although the bees themselves were confined in a room the two ends of which were shut off with burlap, not larger than 8×8. But, understand that, although this room itself was small, the air could circulate through it and into it from the big cellar on the outside.

I imagine one would get about the same result with only 10 colonies in a 10×10 cellar; or in the cellar you speak of, under the store, you could probably put as many as you required, as the cubic feet of air would be sufficient to keep the bees in the inner compartment in good condition, provided the windows were opened and closed occasionally to keep the cellar as cold as possible, and above the freezing-point for the protection of vegetables. I do not think that the presence of vegetables, provided there are no bad smells, would do any harm.—ED.]



NATIONAL BEE-KEEPERS' ASSOCIATION.

OBJECT:—To promote and protect the interests of its members; to prevent the adulteration of honey.

OFFICERS:—E. R. Root, President, Medina, O.; R. C. Atkin Vice-president, Loveland, Col.; Dr. A. B. Mason, Secretary, 3512 Monroe St., Sta. B, Toledo, O.; Eugene Secor, General Manager, Forest City, Iowa.

BOARD OF DIRECTORS:—E. Whitcomb, Friend, Neb.; W. Z. Hutchinson, Flint, Mich.; A. I. Root, Medina, O.; E. T. Abbott, St. Joseph, Mo.; P. H. Elwood, Starkville, N. Y.; E. R. Root, Medina, O.; T. G. Newman, San Francisco, Cal.; G. M. Doolittle, Borodino, N. Y.; W. F. Marks, Champaign, N. Y.; J. M. Hambaugh, Escondido, Cal.; C. P. Dadant, Hamilton, Ill.; C. C. Miller, Marengo, Ill.

FEES:—Annual membership fee, \$1.00. Remittances may be sent here or to General Manager as above.

QUEEN-REARING this year at the Home of the Honey-bees has been progressing very smoothly. The honey-flow was good; then after the main crop was secured, red and sweet clover came in, giving the bees something to do every day, and they are still working so that robbing is not annoying to the extent that it interferes with our queen-rearing operations.

WE are beginning to get good reports of the German wax-press. Already it would appear that in most cases the machine will pay for itself in one or two days' time because it makes use of and turns into cash the material that hitherto has been thrown out in the garden, and considered as so much waste. A machine that can coin gold dollars out of nothing is worth its price and keep.

THE Root Co. especially invite visitors on the way to or from the Pan-American to stop at Medina and see their apiaries as well as inspect their methods. We have one yard of over 500 colonies, and another one of about 50. Both are in exceptionally fine condition, and are almost as orderly and neat as a city park. Our Mr. Wardell has charge of the bees, and is beating all our previous records.

ON my spare evenings I am developing the pictures that I took on my western trip. I have gotten about half way over the series, and I am glad to say they are fine. Most of the pictures were taken with the time-shutter and smallest stop, with the result that there will be a sharp focus and good strong con-

trasts. Many of them will be reproduced in GLEANINGS.

WE have not yet put up our queen-mating cage, for three reasons. First, the great expense involved; second, the doubt as to whether it will work after the money is paid out; third, lack of time. To make a thing of that kind work, one must have infinite faith in it. I still believe that it will work; and if I can get time to give it my personal attention I will try it on a small scale and then on a larger one.

THE Home of the Honey-bees is being enlarged again this year. We expect to have masons at work in a few days putting up a wax-working building, one that will be fire-proof, and devoted exclusively to the manufacture of fine grades of foundation. There will be other additions to some other departments. Another new printing-press has been ordered. A new automatic machine is just being completed, and some special machines will be purchased in the near future.

DO not forget the big convention at the Pan-American, Sept. 10, 11, 12, Tuesday, Wednesday, Thursday, commencing on the first day in the evening. The place of meeting is the Buffalo Library Building, corner Washington and Clinton Streets, near the business center of the city. This promises to be one of the best-attended conventions we have ever had. The meeting at Chicago was nearly 500 strong. Let's break the record at Buffalo.

IN our last issue I referred to the fact that the editor of the *Rural New-Yorker* would speak at the joint session of bee-keepers and fruit-growers, on Thursday evening, Sept. 12. In doing so I referred to his name as Collington instead of Collingwood. Our readers will please take note of the correction, and remember that Mr. Collingwood's address will be something exceptionally interesting. At this session there will be other speakers who will be well worth hearing.

MR. W. A. SELSER, the honey-man of Philadelphia, writes that, so far as his locality is concerned, there is more honey than last year; and he fears that, if bee-keepers in the East go on the assumption that the crop is as scarce as last year, they will be waiting in vain for high prices. He says he has had many more offerings up to date than a year ago.

But this would apply only to the extreme East. The central and western markets, as nearly as we can judge, will be about on a level with last year.

A PARAGRAPH of the honey reports as given in our last issue was inadvertently omitted. In substance it stated that the information was based on a 6000-mile trip in the West, and on something like 400 or 500 reports that had been received from all sections of the country. Our honey-man, Mr. Boyden, sent out blanks to many of the largest honey-producers and buyers of the country, represent-

ing all the best honey territory of the United States. The statement that we gave in our last issue I think, therefore, was as nearly correct as it is possible to make it after making *every effort* to get all the information possible.

A CORRESPONDENT asks if we have ever seen drone brood affected by the disease known as foul brood. Personally I have always been under the impression that this malady is no respecter of persons; but just at this moment I can not be positive that I have ever seen a case of rotten drone brood. If there are any of our subscribers who have found combs of worker brood that were badly diseased, and in the same frames patches of drone brood perfectly healthy, will they please let us hear about it? I can not believe that the microbes would destroy the larvæ of one sex and leave those of the other untouched. If they do, then it must be because the drone brood has slightly different food, rendering it immune.

IN our last issue and this, the Rambler seems to have struck some of his happiest veins of writing. As I went through California some of my friends would say, "Why, that man Rambler is an ordinary-looking sort of a dufer, isn't he? One would not think, to see and talk with him, that he could get off so much fun in his writings." At other places I heard a remark something like this: "Why, when I saw Rambler I expected to hear him talk funny all the time; but he didn't. He talks kind o' quiet, and is just as sober as an old deacon." But J. H. Martin hardly ever goes through any territory without being recognized at once. "Why, this is Rambler, isn't it?" and Mr. Martin, who introduces himself as Martin, very modestly pleads guilty.

THE TAUNTON BEE-CASE; BEES VINDICATED AND DEFENDANT DISCHARGED.

THE following note, just received from W. F. Marks, a Director of the National Beekeepers' Association, will explain itself:

Mr. E. R. Root:—The Rochester bee-keepers win! See inclosed clipping from a Rochester paper.

I notice that you are publishing a series of articles on "The Bee in Law." I hand you herewith a copy of a New York case. As the court wrote an extended opinion, citing many authorities, I consider it one of the most satisfactory court opinions in a bee way on record.

W. F. MARKS.

Chapinville, N. Y. July 22.

This is the clipping to which Mr. Marks refers:

The celebrated case of Mrs. Eliza Taunton, charged with keeping bees within the city limits in violation of a city ordinance, was called in police court yesterday morning. The arrest was made May 28 h, and since that time the case has been called and adjournments granted until both sides finally announced themselves ready for trial. Attorney Callahan prosecuted the case, and Attorneys Dutcher and Barhite acted for the defense.

The case was argued at some length a week ago. Attorney Barhite declared that the ordinance was unconstitutional, as it tended to give administrative powers to private individuals in a case where the law did not work with equality to all. It was held that the council had no right to so delegate such powers, therefore the ordinance was invalid.

On the other hand, Attorney Callahan cited the barbed-wire ordinance as a sample of what could be done in the line of administration by consent. The court requested the attorneys to file briefs, which was done.

Yesterday Attorney Barhite made a motion for the discharge of Mrs. Taunton, and the motion was granted. The court agreed with the attorney that the council had exceeded its rights in granting administrative powers to private citizens, and for this reason the ordinance was said to be invalid.

The ordinance says that no person shall keep bees within the city limits, and at the same time provided that if the consent of all the people within 100 feet of the place where the bees are kept is obtained, it is within the law to keep bees. This delegation of power on the part of the council was the part which Judge Ernst thought made the ordinance void.

Next follows the decision, which is very full, and so valuable that I place it before our readers in its entirety. I will have copies of this struck off, and furnished to the General Manager of the Association, who can use them in other cases that may arise.

SUPREME COURT, STATE OF NEW YORK—EARL VS. VAN ALSTINE.

One who owns or keeps an animal of any kind becomes liable for any injury the animal may do, only on the ground of some actual or presumed negligence on his part.

It is essential to the proof of negligence, and sufficient evidence thereof, that the owner be shown to have had notice of the propensity of the animal to do mischief.

Proof that the animal is of a savage and ferocious nature is equivalent to proof of express notice. In such cases notice is presumed.

The owner of *bees* is not liable, *at all events*, for any accidental injury they may do.

Where, in an action against the owner of bees for an injury done by them to the plaintiff's horses while traveling along the highway past the place where the bees were kept, it appeared that the bees had been kept in the same situation for eight or nine years, and there was no proof of any injury ever having been done by them, but, on the contrary, witnesses residing in the neighborhood testified that they had been in the habit of passing and repassing the place frequently, without having been molested. It was held that this rebutted the idea of any notice to the defendant either from the nature of bees or otherwise, that it would be dangerous to keep them in that situation, and that he could not be made liable.

This action was commenced in a justice's court. The complainant alleged that the defendant was the owner of 15 hives of bees, which he wrongfully kept in his yard adjoining the public highway, and that the plaintiff's horses, while traveling along the highway, and passing the place where the bees were kept, were attacked and stung so severely that one of them died and the other was greatly injured, etc. The answer denied the charge contained in the complaint.

Upon the trial, the keeping of the bees as alleged, and the injury to the horses, were proved, and the plaintiff recovered judgment for \$70.25 and costs. Upon appeal to the county court of Wayne County this judgment was reversed, and the cause was brought to this court by appeal from the judgment of the county court.

By the court, Selden, J. This case presents two questions: 1. Is any one who keeps bees liable, at all events, for the injuries they may do? and, 2. Did the defendant keep these bees in an improper manner or place, so as to render him liable on that account?

It is insisted by the plaintiff that, while the proprietor of animals of a tame or domestic nature, *domitæ naturæ*, is liable for injuries done by them (aside from trespasses upon the soil) only after notice of some vicious habit or propensity of such animal; that one who keeps animals *feræ naturæ* is responsible at all events for any injuries they may do; and that, as bees belong to the latter class, it follows, of course, that the defendant is liable.

In order to determine this question, upon which no direct or controlling authority exists, that I have been able to find, it becomes necessary to look into the principles upon which one who owns or keeps animals is held liable for their vicious acts. It will be found, on examination of the authorities upon the subject, that this classification of animals by the common law into animals *feræ naturæ* and *domitæ naturæ* has ref-

erence mainly, if not exclusively, to the rights of property which may be acquired in them, those of the latter class being the subjects of absolute and permanent ownership; while in regard to the former, only a qualified property can exist, and the distinction is based upon the extent to which they can be domesticated or brought under the control and dominion of man, and not at all upon the ferocity of their disposition, or their proneness to mischief. For instance, the dog, some species of which are extremely savage and ferocious, is uniformly classed among animals *domitæ naturæ*, while the hare, the rabbit, and the dove are termed *feræ naturæ*, although comparatively harmless. It would not be rational to suppose that a classification adopted with exclusive reference to one quality of animals could be safely used to define and regulate responsibilities growing out of other and different qualities; nor would it accord with that just analysis and logical accuracy which distinguish the common law, that it should be resorted to for that purpose. And although some dicta may be found in the book which might seem to countenance the idea, the decided cases do not lead to any such conclusion.

It is unnecessary to enter into any examination of the cases which establish one branch of the proposition contended for, to wit: that, in order to make the owner of a domestic animal liable for any violent injury done by them unless connected with a trespass upon land, it must be averred and proved that the defendant had notice or knowledge of the mischievous nature of the animal. This, as a general rule, is settled by a series of decisions which have been entirely uniform from the earliest days to the present time. But although, in many of these cases, most of which are cases of injuries done by dogs, the words *domitæ naturæ*, or equivalent words, are used to describe the animals for the mischief done, by which their owners would not be liable without notice; yet it is not alone because they belong to that class that the exemption arises, but because animals of that class are usually of a harmless disposition. I apprehend that, if a person chooses to keep a domestic animal, as a dog, which is naturally savage and dangerous, he does so at his peril, and that he would be liable for any injury done by such dog without evidence that he had ever done mischief before. This position is not without authority to support it, although it does not rest upon any adjudged case. In *Judge v. Cox* (1 Stark, 285), Abbott, J., suggests the question, but expressly reserves his opinion upon it as unnecessary to the decision of that case. But in *Hartley v. Harriman* (1 Barn & Ald., 610), which was an action for an injury done to sheep by dogs, the declaration contained a special averment that the dogs were accustomed to worry and bite sheep; and the court held that this averment was not supported by proof that the dogs were of a ferocious and mischievous disposition. But Lord Ellenborough and Mr. Justice Bayley both said that it would have been sufficient to allege generally that the dogs were of a ferocious nature, and unsafe to be left at large, and that evidence of that fact would support the action. These dicta are so obviously in accord with common sense and reason that they will undoubtedly be sustained whenever the question shall arise. It is true that, in a case of injuries done to sheep, our statute makes the owner liable without notice, provided the sheep are killed, but principle would apply to any other injury.

But while, as I have said, the cases which define the responsibilities of the owners of domestic animals are very numerous, those which apply to the liability of the proprietor of wild animals are rare. It has been assumed, rather than decided, that the latter class are kept at the peril of their owners. In *Rex v. Higgins* (2 Ld. Raym, 1583) it is said, "There is a difference between things *feræ naturæ*, as lions, bears, etc., which a man must keep up at his peril, and beasts that are *mansuetæ naturæ*, and break through the tameness of their nature, such as oxen and horses. In the latter case the owner must have notice; in the former, an action lies against the owner without notice." The case in which this was said was an indictment for murder; but the language here given is copied and adopted by Buller, in his *Nisi Prius*, (Bull. N. P., 77.) It will be observed that, while these authorities speak of a whole class, "things *feræ naturæ*," yet the example given is that of lions, bears, etc.

So in a late case in our own courts, *Van Leuven v. Lyke* (1 Const., 516). Judge Jewett, after stating the rule in respect to domestic animals, says: "But as to animals *feræ naturæ*, such as lions, tigers, and the like, the person who keeps them is liable for any damage they may do, without notice, on the ground

that by nature such animals are *feræ* and *dangerous*." Here the learned judge, although adopting the same classification, yet states the true ground of the owner's responsibility. The substance of the rules as given by him is, that one who keeps lions, tigers, or other fierce and dangerous animals, is liable at all events for any injury they may do. The words *feræ naturæ* add nothing of any value to the rule, but rather tend to mislead, as they are descriptive of many animals that are not ferocious or dangerous.

Peake, in his work on evidence, under the head of "Actions Founded in Negligence," has the following: "If one man keeps a lion, bear, or any other wild and ferocious animal, and such animal escape from his confinement and do mischief to another, the owner is liable to make satisfaction for the mischief so done, without further evidence of negligence in him; for every person who keeps such noxious and useless animals must keep them at his peril. On the contrary, if a man has a dog, a bull, or any other domestic animal such as are usually kept, and are, indeed, necessary to the existence of man, no action is maintainable without proof of knowledge, etc.; for without such knowledge no negligence or fault is imputable to the defendant." (Norris' Peake, 486.) Three things are worthy of notice in this extract. In the first place, the author mentions animals that are not only wild but ferocious, and speaks of them as not only noxious but useless. In speaking of domestic animals he dwells upon their utility and value; and, lastly, he makes negligence the foundation of the liability of the owner.

Again, Chitty, under the head of actions on the case for negligence, gives the rule as follows: "The owner of domestic or other animals, not naturally inclined to do mischief, as dogs, horses, and oxen, is not liable for any injury committed by them to the person or personal property unless it can be shown that he previously had notice of the animal's mischievous propensity." (*Chit. Plead.* 82.) This accurate elementary writer did not fall into the error of applying the rule to the whole class of animals *domitæ naturæ*, but adds the qualification, "not naturally inclined to do mischief." By his arrangement of the subject, too, he confirms the view of Peake, that the liability is based upon negligence.

These authorities seem to me to point to the following conclusions. 1. That one who owns or keeps an animal of any kind becomes liable for any injury the animal may do, only on the ground of some actual or presumed negligence on his part. 2. That it is essential to the proof of negligence, and sufficient evidence thereof, that the owner be shown to have had notice of the propensity of the animal to do mischief. 3. That proof that the animal is of a savage and ferocious nature is equivalent to proof of express notice. In such cases notice is presumed.

These views derive some support from the case of *May and wife v. Burdett* (9 Adol. & El. N. S. 101). That was an action on the case for an injury done to the wife by the bite of a monkey. The declaration alleged that the defendant kept the monkey wrongfully, well knowing that it was of a mischievous and ferocious nature, and accustomed to bite, etc., but did not aver that the defendant had been guilty of any negligence. A verdict was found for the plaintiff, and the defendant moved in arrest of judgment, on the ground that, as the action was founded in negligence, the declaration was defective in not containing any averment that the defendant had been guilty of negligence. The motion was overruled, it being after verdict. Ch. J. Denman says, "But the conclusion to be drawn from an examination of all the authorities appears to us to be this, that a person keeping a mischievous animal with knowledge of its propensities, is bound to keep it secure at his peril; and that, if it does mischief, negligence is presumed. The negligence is in keeping such an animal after notice." The injury for which this action was brought was done by an animal clearly *feræ naturæ*, and yet it was deemed necessary to aver the mischievous nature of the animal, together with knowledge on the part of the owner; and the question which arose and was very elaborately discussed was, whether the plaintiff should not have gone still further and inserted an averment of negligence.

Having shown, then, as I think, clearly, that the liability does not depend upon the classification of the animal doing the injury, but upon its propensity to do mischief, it remains to be considered whether bees are animals of so ferocious a disposition that every one who keeps them, under any circumstances, does so at his peril. If it is necessary for the plaintiff to aver and prove the mischievous nature of the ani-

mal, nothing of the kind was done in this case; but if courts are to take judicial notice of the nature of things so familiar to man as bees, which I suppose they would be justified in doing, then I would observe that, however it may have been anciently, in modern days the bee has become almost as completely domesticated as the ox or the cow. Its habits and its instincts have been studied, and, through the knowledge thus acquired, it can be controlled and managed with nearly as much certainty as any of the domestic animals; and although it may be proper still to class it among those *fera natura*, it must nevertheless be regarded as coming very near the dividing line; and in regard to its propensity to mischief I apprehend that such a thing as a *serious* injury to persons or property from its attacks is very rare, not occurring in a ratio more frequent, certainly, than injuries arising from the kick of a horse or the bite of a dog.

There is one rule to be extracted from the authorities to which I have referred, not yet noticed; and that is, that the law looks with more favor upon the keeping of animals that are useful to man than such as are purely noxious and useless. And the keeping of the one, although in some rare instances they may do injury, will be tolerated and encouraged, while there is nothing to excuse the keeping of the other. In the case of *Vrooman v. Lawyer* (13 John. Rep. 339), the court says, "If damage be done by any domestic animal kept for use or convenience, the owner is not liable to an action, without notice." The utility of the bees no one will question, and hence there is nothing to call for the application of a very stringent rule to the case. Upon the whole, therefore, I am clearly of the opinion that the owner of bees is not liable at all events for any accidental injury they may do. The question is still left, whether the keeping of these bees so near the highway subjects the defendant to a responsibility which would not otherwise rest upon him. I consider this question as substantially disposed of by the evidence in the case. It appears that bees had been kept in the same situation for some eight or nine years, and no proof was offered of the slightest injury ever having been done by them. On the contrary, some of the witnesses testify that they had lived in the neighborhood, and had been in the habit of passing and repassing frequently with teams and otherwise, without ever having been molested. This rebuts the idea of any notice to the defendant, either from the nature of the bees or otherwise, that it would be dangerous to keep them in that situation; and, of course, upon the principles already settled, he could not be held liable.

The judgment of the county court must be affirmed.



And it came to pass the same day, that Isaac's servant's came, and told him concerning the well which they had digged, and said unto him, We have found water.—GEN 26:32.

He maketh me to lie down in green pastures; he leadeth me beside the still waters.—PSALM 23:2.

Mrs. Root did not go with me to my ranch in the woods during July. There were several reasons why she begged to be excused. First, the bargain was she was to go and take care of me because my health is poor; but during the past July there was not a thing the matter with me. In fact, one day when I alighted from my wheel up town an old friend of mine said, "Why, look here, Mr. Root, you get off from that wheel as if you were a boy. Are you not forgetting that you are an old man, and gray-headed?"

Well, I do not know but it is true that I do act like a boy, and, in fact, I do not believe I ever felt much spryer when I was a boy in my teens than I do just now. May the Lord be praised for health and strength.

In the second place, we were going to take Mrs. Root up to the Traverse region to escape the hot July weather of Ohio; but our daily papers—yes, our daily papers do sometimes tell the truth—said they had had a higher temperature in Traverse City than in Cleveland.

Third, Mrs. Root worried about the water supply near our new home. She has all her life been in the habit of having pure soft water in unlimited quantities, especially in hot weather. I was obliged to tell her there was no real nice cold spring water within less than a quarter of a mile of our ranch. Of course, the spring that runs 300 barrels a day was on higher ground than the ranch, but it would have to be carried in pipes a quarter of a mile. These pipes would cost a good many dollars, and she said the water would be warm by the time it reached the house. It is true there was a little spring within 500 feet of the house. The cows had been in the habit, however, for years, of wading into this spring to get a drink. They had stamped it full of leaves and filth, and it was any thing but an inviting place. She did not believe such a spring could ever be made wholesome.

Fourth, when she began to inquire about green grass around the new house I had to admit there was not a blade of grass anywhere much nearer than the spring. Who would expect to find grass right out in the dense woods?

Well, Mrs. Root did not go in July, but I have faith to believe she will go a little later on when it is cooler and more pleasant to travel. I captured her more than forty years ago when she was a girl in her teens. I came pretty near using the word "captivated," but I guess that is not what I mean. I *captured* her over forty years ago, as I have just said, and induced her to take up with me and my home for better or worse; and I rather think I can capture her again; and during my July trip I had this purpose in view.

The garden in the cleared-off spot in the wilderness was doing finely. After I had fixed it up according to my notion a little more, it was really a thing of beauty—to me at least. Our very first work was to tackle the spring. I secured the services of a stout German near by, named Burdo, who said he had dug wells and fixed up springs, and he knew he could fix mine all right. In the first place, he dug up carefully and scraped out every bit of filth and mud—yes, and even the dark-colored sandy soil around the spring was cleaned away till we came to the clean white sand or clean yellow clay in the bottom; and we found the water oozed out all around where the sandy and gravelly top soil rested on a stratum of impervious clay. We made a dish-shaped excavation down into the clay, but I told the man not to go down through it, for I feared we should strike sand again, and that would let all of the nice clear water escape; so we just made a bowl-shaped cavity, perhaps 20 or 24 inches deep, below where the water came in. Then I timed it by my watch, and found that, even in this dry July, with its tremendous heat, the water ran in half a barrel an hour,

or at the rate of 12 barrels a day. I first drank the water boiled. Of course, it was all right then. Then I commenced drinking it just as it runs out of the sandy ground, and I had one of my pleasant surprises. That cold spring water did not interfere with my digestion a particle—at least not while I was at work on the ranch.

Now, when I describe to you with great minuteness the way in which Mr. Burdo fixed my spring, I hope it may be helpful to thousands of others who have like springs or like springy places. He got some pieces of 4×4 hemlock, long enough to reach about two feet above the level of the ground, and down to the bottom of the spring. Then he made a square crib or curb by nailing on hemlock boards 3 feet long. He said hemlock would not give the water a taste, and that it is the only kind of wood in that region that can be safely used for curbing a spring. Of course, a stoneware sewer-pipe two feet or more in diameter would be better; but I did not choose to go to that expense then and there. The hemlock boards, you see, let water through all along the sides—that is, if they are nailed on a little piece apart where they come under water. After the curb was in place we filled all around it with cobblestones up to within, say, 18 inches of the surface of the ground, putting large stones in the bottom, and smaller ones gradually on the surface. Then on top of this surface of small stones or gravel he put the impervious clay that he dug out of the bottom of the spring. This was stamped down hard, and made to slope in every direction away from the well. Then a ditch was run around the spring on all sides, with an outlet at the lowest point. This was so that all rain water would run away from the spring and down *around* it instead of running *into* it. We did not want any sort of seepage from the rotten logs and dead leaves above the spring in the woods. Then the clay was covered with sods of a heavy turf of June grass cut from a cleared place some little distance away.

"Now," said Mr. B., "whoever comes here for a drink of water should dip out a good lot and give this turf a good wetting. After it once gets started and rooted into this clay it will keep *green* and *clean*." So Mrs. Root will have some green grass around the spring, any way.

During the week or more that I remained at the ranch this grass took on a lively green, and I really enjoyed myself in lying down on that green turf and looking into "*my* spring" while I lay in the shade of the trees that overshadow it, and looked down into its crystal depths. By the way, there is a dense growth of basswoods all around that spring. The roots, no doubt, go down into the damp sand and gravel that overlie the hard clay. And, by the way, will not such a location be tiptop for many kinds of fruit? I have before spoken of the Downing everbearing mulberry grown under such circumstances. Well, the trees and every thing else grow with wonderful luxuriance all around this spring. During my visit at all other times of the year a little

stream has been running away from the spring. This time, owing to the severe drouth, no water ran away while I remained there. No doubt the vigorous basswood and other trees all around the spring took up a large quantity of this water during the height of their growing season. After their leaves drop, and the trees take on their rest, I shall expect to see the stream of water running away from the spring again as it was last fall.

Now, I made some (at least to me) very interesting and valuable discoveries in studying that spring and playing with it. When I became very warm and tired in working at my lawn around the house, for instance (oh, yes! we are going to have a lawn—I will tell you more about it further on), I used to go down there and not only get a cool drink but wash my face and hands and arms in the cooling fluid. For ten cents I bought a very pretty little wash-basin. By the way, is it not a wonder that we at the present day have so many luxuries in the way of neat and pretty utensils for such a small amount of money? This enameled iron wash-basin has such a smooth and glossy surface you can keep it clean enough to eat or drink out of, almost without any trouble at all. That basin seemed to be a special accompaniment to my spring. I used to keep it hanging on the limb of a basswood-tree. A tin cup and a tin pail are likewise hanging near by.

Oh! I forgot to say that Mr. Burdo made a board cover over the spring. This is to keep out leaves and dirt when the wind blows hard, and to keep out the sun. He says the sun should never shine on the surface of the water of any spring or wherever drinking water is kept. The sunlight induces the development of a plant-like substance called algae, commonly known as green scum, which is seen on soft-water ponds and brooks. He said, however, that, even though the sun, leaves, and dirt, are kept out, the spring must have a certain amount of ventilation, so the board on the front side was made about six inches lower than the other boards. This made it a little easier to kneel down in the grass, to reach down and dip up a pail of water.

Now for my discovery. Whenever I got hot and thirsty at work in the garden during those very warm days in July (yes, it was very warm up along Traverse Bay as well as other places) I used to go down to the spring, take a big drink, and wash my hands and face in the cool soft water. For years I have not been in the habit of drinking cold water, as I have told you; but I found I could drink that water just as it came from the spring all right, providing I drank it slowly; but as the temptation was quite strong to drink a great deal in order to get cooled off quicker, I began pouring it on my hands and arms, the arms being pretty well bared up to the elbow. Mr. Burdo said, you know, that I must pour some water on the grass around the spring every day; so I took my enameled wash-basin and poured water on my hands and arms before it ran off on the grass; and my discovery was that, by pouring it on my wrists, and cooling them, the cooled-off blood would very soon

go all over my body. I thought I was original in this idea; but somebody at the dinner-table spoke of doing the very same thing; and in the last number of the *Philadelphia Farm Journal* I saw that Judge Biggle also recommended pouring cold spring or well water on the wrists to get cool, without drinking too much cold water. Well, after I received so much help and refreshment in this way I began to pour the cold spring water over my head, keeping my head low over the grass that needed irrigation. Finally one evening, after a very warm day, I wanted to ride over to Mr. Hilbert's, across the hills; but I had worked so hard I felt too tired to even ride my wheel. But there was a particular reason why I wanted to go just that night. As I passed by the spring I picked up my wash-basin and bar of Ivory soap, thinking I would try the big spring on the other side of the ranch, and see how its waters compared with those of the new one. Of course, I had to wash my hands and face. Well, this spring is over in the dense woods. In fact, it is quite dark in that close thicket, even at noontime. I bathed my arms and head and neck as before; and this sort of shower bath did me so much good I was struck with the idea of a similar shower bath of cold spring water over my entire body. I remembered what Father Kneippe, of Germany, had said about it in his book, and others in other parts of the world since then. In a twinkling I was stripped of my light summer clothing. The spot is so retired that there was no need of a bathing-suit or bathing-house. After taking a good wash with the soap I began to practice on the cold shower bath by pouring water from my basin on my head. At first it made me gasp for breath, the water was so cold; but every succeeding basinful gave me less and less unpleasantness on account of the cold water, and in a little time I was delighted to find that my system had become so inured by the repeated dashes of cold water that all unpleasant feeling was gone. I drenched myself again and again with basinful after basinful, and I thanked God meanwhile that, as there was 300 barrels a day going to waste, I need not worry about extravagance in the way of using water. Finally, after I had fully satisfied myself that it is not only a safe thing to bathe in cold water—yes, even take a *shower* bath—I decided it was one of the most enjoyable things I had ever discovered. I put on my light clothing, and started off on my wheel. Then came one of my happy surprises. All the tired feeling was entirely gone. I felt like a boy in his teens when school is out. I went over to Bro. Hilbert's, exulting in my new-found strength, slept soundly, and did not feel a particle of reaction. I tried the same thing several times afterward; but to get this exhilaration I have been speaking of, the bath should be taken when you are warm and sweaty—say after a hard day's work. I first washed myself thoroughly by taking water from the wash-basin with my hand and applying it to every part of the body. Of course, this left me more or less soapy. Now, I feel sure from

many years' experience that soap should never be left to dry on the body. Soap should all be rinsed off with plenty of pure soft water, either hot or cold. Now, my discovery is not, of course, any thing particularly new. A cold-water shower bath was quite a craze fifty years ago, as I can well remember. Notwithstanding, I never before realized what a *wonderful* change it makes one feel in exceedingly warm and dusty weather.*

Pure soft-water springs are appreciated to a great extent; in fact, many homes have their especial locations just because of such springs; but I do not believe we have realized the comfort and the bearing on the health of the inmates of the family that these springs, especially when brought right into the home, may be. Many of the springs are high enough above the homes so the only expense is suitable pipes to carry the water where wanted. Where they are not high enough in location a hydraulic ram will lift the water sufficiently to bring plenty of it right up beside the cooking-stove if you choose to have it so near; but if your well is like the new one I have described, and there is not really enough water to run up over and overflow, then the wind-mills that are offered at from \$15.00 to \$20.00 will do the work very well indeed. The only trouble is, the wind does not always blow; but by having a pretty good-sized reservoir you may always have water to use and waste or give away.

At Petoskey I visited a bee-keeper's home where a large family of children have been brought up. A spring of beautiful water, of a considerable volume, is only a few hundred feet from the house, and perhaps 20 feet below it. But their water, during all these years, has either been brought by hand or drawn up by the barrellful by horses. Why, I fairly ached to go to work myself and put a hydraulic ram in that spring, just to show those people what it would do.

One very warm July evening I went over to a schoolhouse a few miles southeast of Traverse City, where they have comparatively level land; but a supply of nice drinking-water is all around just the same. Within a mile of the schoolhouse there is a watering-trough beside the road, where pure soft water pours

* Dr. J. H. Kellogg, of the Battle Creek Sanitarium, is just now engaged in writing a new book on medicine. His brother, Will Kellogg, has been kind enough to send me some of the advance sheets, and from these I make the following extract:

"A person who has never experienced the glow of exhilaration, the invigoration and buoyancy of body and mind, which accompany the state of reaction from a short, general cold application, can not well appreciate the value or significance of the cold bath as a physiological stimulant. It is not too much to say that it is, of all measures known to man, the most valuable as a means of arousing to activity the flagging energies of the body, and lifting the enervated invalid out of the morasses and quagmires of chronic disease.

"The reaction produced by tonic applications fills the skin with blood; and it is daily repeated, the blood is finally fixed in the skin, thus permanently increasing its vascular activity, and relieving internal congestion.

"Of the several forms of *douche*, the *rain douche*, or shower bath, is the most strongly refrigerant, since it impresses at each instant the largest portion of the surface."

over the sides of the trough all around its whole length. Not only this, but the V shaped trough of boards that carries water from the spring to the trough seems insufficient to take care of all this wealth of cold spring water; and it pours over the sides of this trough almost its whole length. This water all comes from one spring. Mr. E. Black told us there had been talk of carrying the water in pipes to Traverse City.

A little way north of this schoolhouse, where the superintendent of the Sunday-school lives, we saw irrigating-pipes all through his garden, just as if he had water under pressure. I wondered why his place was thus equipped when his home was on a level plain, comparatively, with nothing that would indicate a spring or city water-works in sight. We were out so early the family had not finished breakfast; but he smilingly marched us into the pantry, right close to the kitchen stove, and there a stream of water was pouring forth under pressure from a pipe that I should call $1\frac{1}{4}$ or $1\frac{1}{2}$ inch. It was from an artesian well, and he said he put the pipe down *only 28 feet*. When I suggested that it might not hold out if left running with such volume, he said the stream had been going just like that for *nine years*.

Well, our good friend W. F. Silsby, one of our subscribers in Traverse City, has just purchased 20 acres of land in that neighborhood, for less than \$20 00 per acre. Shall I tell you why he bought it? There is more alsike clover grown in that vicinity than for many miles around; and he is establishing an out-apply on his newly acquired land.

I had a curiosity to see the speckled trout in the cold spring brooks in that region, and so our good friend got some hooks and lines, and we went over into a field a little beyond the house, where we found a babbling brook hurrying and scurrying through the clover-field, and in a little time we had caught several of the speckled beauties. I expressed surprise that fish of that size should be found in so small a rivulet; but I was told that little runs like that, of cold spring water, were just the place for them. On our way back a man was cutting alsike and timothy for hay; and he said he was having a great deal of trouble because there was such a growth of alsike in with the timothy. It was so heavy he feared he could never cut it at all.

The last of my texts refers to green pastures and still waters. A part of my July work was to make some June grass grow around our rude summer cottage. Perhaps many of our readers know as well as I how to make a nice lawn. If so, they all know that it requires a great deal of hard work. Notwithstanding, I have decided again and again it is worth while. Many of our cities are now spending large sums of money in making parks and boulevards; and often the first thing they do is to set a lot of men at work smoothing off the rough inequalities of nature, fining up the ground, and then grading and leveling it preparatory to making lawns. We did the same thing at our ranch. We dug the ground over thoroughly, then raked out

the roots and stones, raking it over again and again, filling in here and cutting down there. Of course, we can not always have a lawn exactly *level*; but to be handsome it needs to be smooth. There must be no ups nor downs, nor inequalities. How wonderfully it rests the eye, and rests the person, to get just a glimpse of a beautiful lawn in front of or adjoining a home! In the outskirts of Traverse City there are some of the finest lawns I ever saw in the world. Mr. Hilbert said his impression was they were made of June grass and nothing else. After our lawn was finally graded and raked to my satisfaction, I gave Mr. Burdo some lawn grass and white clover to seed it down with. He said it wanted to be raked in just before a good heavy rain. While I was up in the Soo, as you may remember, a good rain came, and the seed is all in; so I suppose on my next trip, or, if you choose, *our* next trip, Mrs. Root and I will have the pleasure of seeing at least a little green grass around the door among the trees and garden stuff. By the way, you can not have a real nice flower-garden without having at least some green grass for a background; and to have this lawn nice, especially during real warm weather, without rain, like the past season, for instance, you need water for irrigation. A running spring, a hydraulic ram, or a windmill, will, any one of them, furnish abundant water to water the lawn. Of course, you want a reservoir, and one of the revolving sprinklers we see so often in front of the cottages in the suburbs of nearly all of our cities, large or small.

Since dictating the above I find that T. B. Terry, in the *Practical Farmer*; W. I. Chamberlain, in the *Ohio Farmer*, and Judge Biggle, in the *Philadelphia Farm Journal*, have been writing about what to do in warm weather—what to eat, what to drink, how to keep cool, and how to keep well. It was an agreeable surprise to me to find that this Home Paper is so much in line with what some of our great rural teachers have been talking about.

CONVENTION NOTICE.

All arrangements for the next convention of the National Bee-keepers' Association have been completed so far as possible, and the convention will be held in the audience room of the Buffalo Society of Natural Sciences, Sept. 10th, 11th, and 12th; commencing on the evening of the 10th. The place of meeting is in the Buffalo Library building, corner of Washington and Clinton Streets, near the business center of the city. The president of the Natural Sciences Society, Mr. Smith, has also kindly offered our Association the use of their library and other committee rooms during the time of our convention, and to do all in the power of the society to help make our meeting a success.

Railroad rates will vary in the different passenger association territory, from one cent per mile each way to one and one-third fare for the round trip. Each person can readily learn the rate on inquiry at his railroad station.

The Buffalo bee-keepers will try to provide entertainment at reasonable rates for all attending the convention, who will notify Mr. Sydney S. Sleeper, of Holland, N. Y., by Sept. 2d, of their wish for entertainment.

In a letter just received from Mr. Sleeper he says, "We want all to come who can, for we wish to make the Buffalo meeting the most pleasant and instructive one that was ever held in America. We will have the

co-operation of all the sciences as well as the school board," and names some professional men who are interested in our specialty and will be at the convention to help.

In a long letter from Mr. Hershiser, just received, he closes by saying, "Call upon me for whatever further assistance I am able to render;" and Mr. Penton, an ex-president of the Erie County Bee-keepers' Society, and others, have offered to do all they can to provide for the comfort of the delegates.

As stated in my previous convention notice in GLEANINGS, there will be no fixed program and no papers, and the time will be occupied in answering and discussing questions, except that on Thursday evening there will be a joint session of our association with the American Pomological Society, to discuss "the mutual relations of bee-keeping and fruit-growing;" and Prof. Beach, of the N. Y. Agricultural Experiment Station, and Prof. Fletcher, of the Central Experimental Farm of the Dominion of Canada, will help talk for the bees at that session, and it is hoped that much good will result to fruit-growers and beekeepers from this joint session.

If any bee-keeper who can not be at the convention has any questions, knotty or otherwise, he would like to have answered at the convention, will send them to me I will see that they are presented.

A. B. MASON, Sec., Sta. B, Toledo, O.



HONEY-PACKAGES OF TIN.

Owing to the strike of the members of the Amalgamated Association and those who sympathize with them, and the consequent stoppage of the larger number of mills making tinplate and sheet metals, there is a sheet-metal famine, and prices are abnormally advanced for the time being, not only on the sheets but on articles made from them as well. The last price quoted us by the tin-can trust on one-gallon cans is \$1.50 to \$3.50 higher than the price we are selling them for. We do not propose to increase our price so long as our stock lasts; but we can not fill orders after stock on hand is used up until we can obtain more. Of tin honey-packages listed in our catalog we have the following in stock.

RAISED-COVER FAILS.

300 pint, 150 quarts, 200 2-quarts, boxed separately.
400 nests $\frac{1}{2}$, 1, and 2 quarts.
350 nests $\frac{1}{2}$, 1, 2, 3 and 4 quarts.

RECORD'S TIGHT SEAL-COVER FAILS.

150 No. 1; 400 No. 2; 575 No. 3; 1000 No. 5, and none of No. 10.

CANS WITH SCREW CAPS.

2000 5-gal. cans with $1\frac{1}{4}$ -inch screws, and a few with 2-inch lever seals, which will be boxed one or two in a box as required.

500 1-gal. square cans with $2\frac{1}{4}$ -inch screws.
1400 1-gal. square cans with $1\frac{1}{4}$ -inch screws.
300 1-gal. oblong cans with $1\frac{1}{4}$ -inch screws.
700 $\frac{1}{2}$ -gal. square cans with $2\frac{1}{4}$ -inch screws.
300 $\frac{1}{2}$ gal. square cans with $1\frac{1}{4}$ inch screws.
1000 $\frac{1}{4}$ -gal. square cans with $1\frac{1}{4}$ -inch screws.

We have also some 600 $\frac{1}{4}$ -gal. oblong square cans with 2-inch lever seal, which we do not list, which we offer at \$6.00 per 100 or \$5.50 if the whole lot is taken. We have also 400 1-quart round cans with 2-inch lever seal, which we offer at \$1.50 per 100, or \$4.00 if the lot is taken.

HONEY PACKAGES, GLASS.

We still have a good supply of half-gallon Mason jars; only a few of quarts are left, and none of the pints. Prices remain the same for such stock as we have.

Of No. 25 jars holding a full pound of honey we have on hand and engaged, 100 gross, part packed one gross in a barrel and part 2 dozen in a partitioned case. We have also 25 or 30 gross of the same style of jar holding about 14 oz. of honey, No. 100, which we sell at 50 cents per gross less than No. 25.

We have 11 bbls. of 1-lb tumblers, No. 789; 2 bbls. 788 and 789, nested, and 2 bbls. of 788; 1 bbl. of 775 glass pails, and 2 each of 776, 777, and 778.

Prices on all the above will be found in our catalog, pages 26 and 27. If in need, order while we have the stock to furnish.

SECOND-HAND 60-LB. HONEY-CANS.

We still have on hand about 100 boxes of second-hand honey-cans in fair condition, which we offer, to close out, at 40 cts. per box in 10-box lots; 25 boxes or more at 35 cts. per box. These cans need scalding out before they are used. They would be a very cheap package for amber or low grade of honey, and most of them, when properly scalded out, will do nicely for good honey.

GLASS FOR SHIPPING-CASES.

The price of window glass is so high that at present market price we should have to ask \$5.00 a box for all strips up to 16 inches in length, and \$5.50 for those over 16 inches. It is only by getting strips cut from waste, as we are able to find them, that we maintain present catalog prices on cases including glass strips. We can not agree to furnish glass alone at catalog prices, only as we have a surplus. Any thing cut to order will have to be \$5.00 per box at least.

Special Notices by A. I. Root.

Travels, both in Florida and Northern Michigan, are crowded out of this issue for want of room.

WHAT TO PLANT THE LAST OF AUGUST; SEE P. 655, LAST ISSUE.

We are just in receipt of a letter from a friend in Kansas who says he has excellent success in sowing alfalfa during the last of August and first of September. The ground is to be made very fine by repeated workings, and very firm by repeated rollings, just as you fix it for wheat. Then sow 20 lbs to the acre. Full particulars will be given in our next issue.

ANOTHER LOW-PRICED EXCURSION TO NORTHERN MICHIGAN.

We have just received another notice from the Pere Marquette Railroad Co., Toledo, as follows:

"On September 3d, we will have a \$5.00 ten-day excursion to Ludington, Manistee, and all points north of Baldwin as far as Harbor Springs; \$6.00 to Mackinaw City and return for the same dates."

W. C. TOUSEY, D. P. A., Toledo, Ohio.

You will see the above takes in all of the places I have been recently writing about. This low rate to Harbor Springs, only \$5.00, is less than one-fourth the regular fare. The excursion starts from Toledo.

Readers of GLEANINGS who expect to buy a queen or two to test the merit of different stock, will do well to read H. G. Quirin's advt. on last cover page. Good stock at prices which are right, is his motto.

WANTED.—To sell my entire and complete apiary consisting of 75 colonies of bees, on Lang, and American frames, hives, winter-cases, extracting-supers with comb, extractor, and all other necessary equipments. Big bargain. Write for particulars. Also good 40 acre farm to rent or sell.

W. H. ALLSWEDE, Sanford, Mich.

WANTED.—A helper in the bee and honey business; one who has had success in this direction; an active young man; one with a conscience, good habits, and who can give references to cover the case; a steady job to the right person.

BYRON WALKER, Clyde, Cook Co., Ill.

GLEANINGS AS AN ADVERTISING MEDIUM.

We wish to say that our ad't in your journal paid us back many times the cash expended for it. The inquiries and orders received were treble what we had from the others. We did a better business than we expected. The reason we stopped our ad't was that we had sold all we cared to sell, as we did not wish to lose trade by returning money; and, what was more satisfactory, we have not had a single complaint so far. All reports from patrons are satisfactory.

Meldrim, Ga., June 18.

CHRISTIAN & HALL.

**Minnesota Bee-keepers' Supply Mfg. Co.,
Manufacturers of
Bee-hives, Sections, Shipping-cases, and
Everything Used by Bee-keepers.**

Orders filled promptly. We have the best shipping facilities in the world. You will save money by sending for our price list. Address

**Minnesota Bee-keepers' Supply Mfg. Co.,
Nicollet Island Power Building, Minneapolis, Minn.**

Crimson-Clover Seed.

I have fifty bushels grown on hard land, a No. 1 article, at \$4 00 per bushel for one or more bushels; $\frac{1}{2}$ bushel, \$2 25; $\frac{3}{4}$ bushel, \$1.25; bags free. Reference, any business firm or bank in Kent Co., Del.

J. Colby Smith, Willow Grove, Del.

GINSENG!

September, October, November, and December are the months in which to set this plant. We have a large stock of cultivated roots. Will quote prices on seed or roots, and guarantee safe shipment.

C. M. Goodspeed, Skaneateles, N. Y.



Belgian Hares

Fully pedigreed of the highest breeding, at prices that will suit. With every hare sold goes a full pedigree, register number, and score-card, scored by an official judge; and, when desired, does will be bred to one of our famous high-scoring bucks before shipment. Address **J. B. MASON, Managr. of The A. I. Root Co., Mechanic Falls, Me.**



Belgian Hares

I have some fine hares for sale at reasonable prices.

J. F. Moore, : Tiffin, Ohio.

BELGIAN HARES!

Either domestic or imported, of any grade from a pedigreed prize-winner to a common rabbit, at prices that are right. Write **GEO. M. TEETER, PENNVILLE, IND.**

1200 FERRETS. All sizes; some trained; first-class stock. New price list free. **N. A. Knapp, Rochester, Lorain Co., Ohio.**

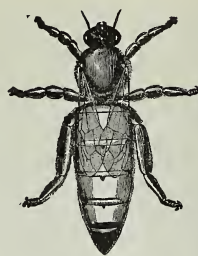
To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & cat. 288 free. **W. Chester, Pa.**

Mr. A. I. Root's Writings

of Grand Traverse territory and Leelanau Co. are descriptive of Michigan's most beautiful section reached most conveniently via the

PERE MARQUETTE R. R.

For pamphlets of Michigan farm lands and the fruit belt, address **W. C. Tousey, D. P. A. Toledo, Ohio.**



A Superior Red-clover Queen for 25 cts.

An Offer for New Subscribers:

We want to add a lot of new readers to our WEEKLY AMERICAN BEE JOURNAL, list during August and September. For that reason we are making those who are not now reading our journal regularly, this liberal offer: Send us \$1.25, and we will mail you the Bee Journal for a whole year, and also one of our SUPERIOR LONG-TONGUED RED-CLOVER QUEENS—untested Italian.

We arranged with one of the oldest and best queen-breeders (having many years' experience) to rear queens for us this season. His bees average quite a good deal the longest tongues of any yet measured. The breeder he will use is direct from Italy, having imported her himself. Her worker-bees are large, somewhat leather-colored, very gentle, and scarcely requiring veil or smoke. They stored red-clover honey last season. All queens guaranteed to arrive in good condition, and all will be clipped unless otherwise ordered. All queens mailed promptly.

Headquarters in Chicago for Root's bee-supplies at Root's prices. A free catalog and sample of the American Bee Journal on request.

George W. York & Co., Chicago, Ill.
144, 146 Erie Street.

Standard-Bred Queens!

Acme of Perfection; Not
a Hybrid among Them.

Improved Strain Golden Italians.

World-wide reputation; 75c each; six for \$4.00.

Long-tongued 3-banded Italians.

Bred from stock whose tongues measured 25-hundredths inch. These are the red clover hustlers of America. 75 cts. each; six for \$4.00. Safe arrival guaranteed. Catalog on application. Headquarters for bee-keepers' supplies.

Fred W. Muth & Co., Cincinnati, Ohio.
South-west Corner Front and Walnut Streets.

CHAS. ISRAEL & BROS.,
486, 488, 490 Canal St.,
Corner Watt Street, N. Y.

Honey and Beeswax.

Liberal Advances made on Consignments.
Wholesale Dealers and Commission Merchants.
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